STONEHOUSE ALLOTMENT MANAGEMENT PLAN

AND

REVISED ENVIRONMENTAL ASSESSMENT

OR-026-99-47

Bureau of Land Management
Burns District Office
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CHAPTER I: INTRODUCTION

A. Purpose of and Need for Action

An evaluation of rangeland monitoring data for Stonehouse Allotment was completed by a Bureau of Land Management (BLM) Interdisciplinary (ID) Team in April 1999 and approved by the Andrews Resource Area Field Manager on April 29, 1999. This evaluation determined the *Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the BLM in Oregon and Washington* (August 12, 1997) were not being met (Appendix E). Specifically, the watershed function of riparian/ wetlands was not achieved; standards for watershed function of uplands (5,408 acres) were determined to be at-risk; functioning of ecological processes was also determined to be at-risk; and the standards for water quality and locally important species (redband trout) were not achieved. Livestock were determined to be a causal factor for not achieving the standards for watershed function of riparian/wetlands, water quality, and for locally important species. Additionally, current management is not in conformance with Guidelines 1 and 6 which are:

Guideline 1. The season, timing, frequency, duration, and intensity of livestock grazing use should be based on physical and biological characteristics of the site and management unit.

Guideline 6. Provide periodic rest from grazing for rangeland vegetation during critical growth periods to promote plant vigor, reproduction, and productivity.

This document analyzes alternatives for allotment management identified by the BLM ID Team. These alternatives are analyzed for conformance with Guidelines for Livestock Grazing Management, achievement of the Standards for Rangeland Health, and accomplishment of allotment-specific objectives.

B. Background

The Stonehouse Allotment is located 62.00 miles southeast of Burns, Oregon. The grazing permit is controlled by Tom Davis Livestock, Inc. (location map Appendix A).

The Stonehouse Allotment is within the Steens Mountain Cooperative Management and Protection Area which is administered under the Steens Mountain Cooperative Management and Protection Act (PL 106-399) (Steens Act) in addition to all other applicable laws, regulations, and policies.

In 1902, David Griffiths published a report for the U.S. Department of Agriculture on forage conditions on the northern border of the Great Basin. In this report, he relates information and photographs of grazing use on Steens Mountain based on his observations during a field study completed in 1901.

Mr. Griffiths states, "The most closely pastured region visited was Steins (Steens) Mountains. On the whole trip of three days we found no good feed, except in very steep ravines, until we reached the vicinity of Teger (Kiger) Gorge."

Griffiths (1902) made a conservative estimate of 182,500 sheep summering on Steens Mountain. There is no recorded number of cattle on Steens Mountain, but it is generally accepted cattle use was much higher than at present. During the first 35 years of this century, domestic livestock would follow the snowline up the mountain and be driven off the mountain in the fall by snowstorms. By 1936, 2 years after passage of the Taylor Grazing Act, the transient sheep outfits (those without base property to support their flocks during the winter) were forced off the mountain (Bill Bradeen, 1972).

This area was part of the Alvord individual allotment included within the Diamond adjudication unit in 1965 and 1966. The Stonehouse area was encompassed in the Alvord individual Allotment Management Plan (AMP) which was implemented in 1967. At this time, the area was grazed in a deferred-rotation system, June 15 to August 30 one year and July 30 to August 30 the next. Because much of the private rangeland to the south and west of the current boundary was included with the Alvord individual allotment, comparisons of stocking levels between then to today are not possible.

In 1970, the current Alvord Allotment boundaries were developed from transfers from the Mann Lake Ranch. At this time, the current permittee acquired the Federal grazing permit for the Alvord Allotment which included the Stonehouse Pasture. In 1985, the Alvord AMP was rewritten and approved.

Stonehouse Allotment was a pasture in Alvord Allotment until 1995. Through agreement with the permittee, the Stonehouse Pasture was withdrawn from the Alvord Allotment and designated a separate allotment. The Alvord AMP did not adequately address management of the Stonehouse Pasture.

The Stonehouse Allotment, which is at a 6,000 to 7,000-foot elevation on Steens Mountain, is physically separated from Alvord Allotment and has always been managed separately. The Stonehouse Allotment encompasses the headwaters of several streams including Stonehouse, Little Stonehouse, Deep, Coyote, and Riddle Creeks. Riddle Creek provides habitat for native redband trout, a BLM sensitive species.

The Stonehouse Allotment supports a diversity of wildlife including deer, elk, bighorn sheep, sage-grouse, various songbirds, small mammals, amphibians, reptiles, and redband trout.

The allotment adjoins a wild horse Herd Management Area (HMA), but is outside its boundary. There are portions of two Wilderness Study Areas (WSA), (Stonehouse WSA (2-23L) and Lower Stonehouse WSA (2-23M),) in Stonehouse Allotment.

This allotment contains one pasture of 10,551 acres of public land managed by the BLM and 282 acres of private land. The current grazing permit, as defined in the Alvord AMP written in 1985, is for 700 cattle, July 1 to September 15, which equals 1,772 AUMs. There are 53 AUMs allowed for exchange-of-use of private land within the allotment. The allotment is an Improve (I) category allotment for the following reasons:

1. Range condition is not satisfactory.
2. Forage production potential is high and present production is moderate.
3. Present management is unsatisfactory.
4. Resource use conflicts and controversy exist.
5. Riparian/wet meadow condition and trend are unsatisfactory.

The ranking by management category was completed when Stonehouse was a pasture of Alvord Allotment, which was ranked as Number 5 in priority for allocation of funding and planning to improve management.

Timing of grazing is often within 1-month or less of key plant species maturity on upland sites and, therefore, in past management and planning documents it was referred to as a deferred pasture.

C. Conformance

This AMP/Environmental Assessment (EA) is in accordance with the 1982 Andrews Management Framework Plan, the 1983 Andrews Grazing Management Final Environmental Impact Statement (EIS), the 1989 Final Oregon Wilderness EIS, the Steens Act, and the 2004 Proposed Andrews Resource Management Plan (RMP). This document analyzes management alternatives for conformance with *Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the BLM in the States of Oregon and Washington*.

Interim Management Policy for Lands under Wilderness Review

Any action proposed for WSAs needs to be in compliance with the Interim Management Policy (IMP) for Lands under Wilderness Review. The following discussion looks at the proposed action and Alternatives I through IV to determine if they are in compliance with various aspects of the IMP.

The restoration, protection, and preservation of wilderness values is the "overriding consideration" of WSA management. Wilderness values include roadlessness, naturalness, opportunities for solitude or primitive and unconfined recreation, and the presence of special features. The proposed action and Alternatives I, II, and IV could affect wilderness values by adding manmade features to the landscape and by constraining opportunities for primitive and unconfined recreation. Alternative III would not affect wilderness values.

The "nonimpairment criteria" requires that any uses, facilities or activities in a WSA be temporary. They may be allowed if easily removed, cause no surface disturbance, are not permanent, and do not degrade wilderness values. The proposed action and Alternatives I, II, and IV would not meet the "nonimpairment criteria" because new, permanent structures would be built in the WSAs. There could be long-term effects to wilderness values from the proposed action, Alternatives I, II, and IV that could impair the WSAs' suitability for preservation as wilderness. However, the IMP does allow new, permanent livestock developments. This is discussed below. Alternative III would meet the "nonimpairment criteria" because no new structures are proposed and there would be no long-term effects to the wilderness values. The proposed action and alternatives are not exceptions to the "nonimpairment criteria" because they are not emergencies, are not reclamation activities to minimize the effects of emergencies or IMP violations, are not grandfathered, do not clearly protect or enhance wilderness values, and do not reclaim pre-Federal Land Policy and Management Act (FLPMA) of 1976 impacts.

Any action in a WSA should be substantially unnoticeable. The action should be a minor feature of the area or not distinctly recognizable as being manmade or man caused. The new fences in both WSAs, as described in the proposed action and Alternatives I, II, and IV, could be noticeable because they would introduce a variety of visual contrasts into the landscape and would be recognizable and being manmade. These contrasts are described in more detail in the Visual Resources discussions in the Environmental Consequences chapter. Mitigating measures, which would reduce the visual contrasts, are also recommended. Alternative III would be substantially unnoticeable because no fences would be constructed in the WSAs.

An action that enhances wilderness values is one that clearly restores, protects or maintains wilderness values. The proposed action and Alternatives I, II, and IV would enhance wilderness values in the Lower Stonehouse WSA through the removal of fences. However, wilderness values would be diminished in both WSAs through the construction of new fences.

Although not required, the use of the minimum tool concept in WSA management is recommended. The methods and equipment in a WSA action should be the least impacting. The method and equipment need only be feasible and are not necessarily the most economic means of accomplishing the action. The use of ATVs for fence construction and maintenance in the proposed action and Alternatives I, II, and IV would probably not be the minimum tool needed.

The IMP provides specific guidance on new, permanent livestock developments. New, permanent fences may be built and maintained in WSAs if they truly enhance wilderness values, are substantially unnoticeable, and will not require motorized access if the area is designated as wilderness. The table in Appendix F summarizes the effects of the proposed action and alternatives in relation to the Maximum Allowable Impacts. The Maximum Allowable Impacts are from Appendix D of the IMP. The proposed action and Alternatives I, II, and IV would not truly enhance wilderness values, but could be substantially unnoticeable. Alternative III, the no action alternative, would not enhance wilderness values in the long term, but lead to degradation.

D. Goals and Allotment Objectives

The following goals and objectives were developed by the BLM ID Team as part of the 1999 evaluation and analysis of Stonehouse Allotment, and subsequent observations and assessments. The monitoring outlined in this document was also designed by the BLM ID Team to measure the achievement of allotment objectives and is included in all alternatives analyzed in this assessment. Results of all monitoring will be discussed in the next allotment evaluation scheduled for 2010.

Adaptive Management is a procedure in which decisions are made as part of an ongoing process of planning, implementing, monitoring, evaluating, and incorporating new information into strategies to meet the goals and objectives of ecosystem management. This process builds on current knowledge, observation, experimentation, and learning from experience. A continuous feedback loop allows for mid-course corrections in management to meet planned goals and objectives. In addition, it provides a model for adjusting goals and objectives as new information develops and when the resource recommends management changes.

1. Water Resources and Riparian Wetlands

Goal:

Ensure surface waters influenced by BLM activities comply with or are making progress toward achieving State of Oregon water quality standards for beneficial uses as established per stream by the Oregon Department of Environmental Quality (DEQ).

Restore, maintain or improve riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian areas and wetlands.

Allotment Objective:

Riddle Creek and Paddle Meadows: Achieve a minimum of 10 percent increase (from baseline transects 1999-2000) in the herbaceous hydric (moisture loving) community cover types within 5 years, and demonstrate maintenance or further establishment of herbaceous hydric species upon completion of selected grazing management cycle.

Riddle Creek: Achieve a 10+ percent increase (from baseline transects 1999-2000) in the herbaceous hydric community cover, and demonstrate willow recruitment on the lower reach (approximately 1.50 miles) within 5 years. Demonstrate maintenance or further establishment of riparian vegetation species upon completion of selected grazing management cycle. Maintain a rating of Proper Functioning Condition (PFC) on the meadow reach and achieve a level of PFC on the lower reach within 5 years of implementing the selected grazing management cycle.

Stonehouse Creek: Maintain PFC and within 5 years of implementation increase riparian vegetation cover and reduce unstable banks along the lower reach.

a. These allotment objectives address the following resource concerns:

   Riddle Creek is functioning at-risk along the lower reach, with a plant composition and vegetative cover which should have a higher percentage of hydric species and deciduous woody species cover. Bank instability and width:depth ratio exceed what would be expected in PFC for the stream, as indicated by baseline PFC and green-line studies. In the lower reach of Stonehouse Creek, as determined by baseline PFC assessment, there is some bank instability and there should be a higher percentage of hydric vegetation cover. Paddle Meadows and Riddle Creek Meadows are lacking in hydric species composition. These meadows are also lacking hydric vegetation cover, i.e., sedges and rushes as determined by baseline rangeland trend studies.

b. These objectives promote the achievement of the following Oregon/Washington (OR/WA) Rangeland Standards:

   - Watershed Function - Riparian/Wetland Areas
   - Ecological Processes
   - Water Quality
   - Native, T&E, Special Status, and Locally Important Species

c. Monitoring needs and schedule:

There are two green-line transects on Riddle Creek, one on the meadow reach and the other below the meadows. The baseline data was collected in 1999. These will be repeated prior to implementing the grazing cycle and within 5 years of implementation. Riparian photo points will be photographed prior to implementing the grazing cycle and repeated within 5 years of implementation.

Photo points will be established on the lower reach of Stonehouse Creek prior to implementing the grazing cycle and repeated within 5 years of implementation. The ID Team will repeat a functionality assessment of Riddle Creek within 5 years of implementation (before formal evaluation). The ID Team will also complete an assessment on Paddle Meadows and repeat this assessment after 5 years of implementation.

The 3 by 3 photo trend on the meadows (Riddle and Paddle) was continued with a step-point transect completed in 2000 and will be conducted again prior to implementation and within 5 years following implementation. The area will be managed to increase residual cover by implementation of recommended management alternatives. The existing utilization studies will be continued.

Measurement of median stubble height of key riparian herbaceous species will be recorded at selected key areas at the end of the growing season on pastures that are actively grazed during the first grazing management cycle.

Monitor water temperature on Riddle Creek during the summer prior to implementing the grazing cycle and within 10 years following implementation.

2. Upland Vegetation

Goal:

To maintain or improve the ecological status of the vegetation of the upland watershed.

Allotment Objective:

To improve plant species diversity and community structure on deep loamy, subalpine slopes, stony loam, and swale ecological sites as measured by baseline monitoring; to create a mosaic of seral stages on these sites, increasing the herbaceous component from 5 percent or less to 20 percent of composition (measured by frequency of occurrence); and reduce the western juniper by 70 percent, where juniper has encroached these ecological sites as measured by belt transects. This would be accomplished on 35 percent of the allotment within 3 years.

a. This allotment objective addresses the following resource concerns:

The loss of plant species diversity and diversity of community structure and the lack of habitat mosaic due to the dominance of western juniper and the decadent mountain sagebrush on these ecological sites.

b. This objective achieves the following OR/WA Rangeland Standards:

- Watershed Function – Uplands
- Ecological Processes

c. Monitoring needs and schedule:

The 3 by 3 photo point trend studies were located on two of the deep soil, mountain sagebrush ecological sites in key areas with baseline data collected before the prescribed burn, 2 (2005) and 5 (2008) years following burning. A step-point transect will accompany this study at the same interval. A line intercept transect, with a shrub and tree belt transect, will be completed at the same intervals as the other trend studies (Burns District prescribed burn methodology 1996) to assess herbaceous, shrub, and tree cover, and shrub and tree density. Prescribed burned areas were mapped with a Global Positioning System unit to record size and location of the burn areas.

3. Wildlife and Wildlife Habitat

Goal:

Maintain, restore or enhance riparian areas and wetlands so they provide diverse and healthy habitat conditions for wildlife.

Manage upland habitats so the forage, water, cover, structure, and security necessary for wildlife are available on public land. Habitat requirements for Special Status species such as bighorn sheep and sage-grouse will be met.

Allotment Objective:

Increase the residual vegetation cover on Riddle Creek, Riddle Creek Meadows, and Paddle Meadows with the implementation of better livestock management. Increase by 10 percent the composition (by frequency of occurrence) of hydric species on meadows and Riddle Creek within 5 years and accomplish all allotment riparian objectives.

Within 5 years, improve community structure and increase hydric vegetation cover by 10 percent along Riddle Creek riparian zone. Create a mosaic of plant communities and diversity of habitats through the reintroduction of fire on the following ecological sites: stony loam, deep loamy, subalpine slopes, and swales.

a. This allotment objective addresses the following resource concerns:

There is a lack of residual cover on wetland meadows and within riparian zones. The composition and cover of hydric species and the community structure along Riddle Creek riparian zone and Riddle Creek and Paddle Meadows are below acceptable levels.

There is a lack of diversity in habitat and community structure on the upland ecological sites of stony loam, deep loamy, subalpine slopes and swales.

b. This objective achieves the following OR/WA Rangeland Standards:

- Watershed Function – Uplands
- Watershed Function - Riparian/Wetland Areas
- Ecological Processes
- Water Quality
- Native, T&E, Special Status, and Locally Important Species

c. Monitoring needs and schedule:

The monitoring studies and schedule would be as described for Water Resources and Riparian Wetlands and Upland Vegetation.

4. Fish and Aquatic Resources

Goal:

To restore and improve habitat to provide for a diverse and self-sustaining population of fish and other aquatic organisms.

Allotment Objective:

Improve riparian vegetation cover, channel stability, and water quality on Riddle Creek as discussed in Water Resources and Riparian Wetland (D. 1) to facilitate instream habitat complexity (e.g., pools, undercut banks, and overhanging cover).

a. This allotment objective addresses the following resource concerns:

Fish and aquatic habitat are below potential based on PFC assessment, observations, and temperature data. Riddle Creek is water quality limited DEQ (303d) listed due to temperature.

b. This objective achieves the following OR/WA Rangeland Standards:

- Water Quality
- Native, T&E, Special Status, and Locally Important Species

c. Monitoring needs and schedule:

Same as D.1.c. Monitor redband trout density and age-class distribution in selected habitat unit(s) (pools). Establish baseline and repeat at 5-year intervals or commensurate with monitored changes in riparian vegetation.

5. Rangeland/Grazing Use Management

Goal:

Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations.

Allotment Objective:

Implement adaptive management with current livestock AUM allocations while achieving previously identified resource objectives.

Increase percent composition frequency by 10 percent and cover of hydric herbaceous species by 10 percent on Riddle Creek riparian, Riddle Creek, and Paddle Meadows after 5 years of adaptive management. Increase mosaic of plant communities for swales, stony loam, deep loamy and sub-alpine slopes ecological sites through the reintroduction of fire. Maintain low sagebrush communities with composition by frequency as shown by current step-point transects. Increase native herbaceous species (grasses and forbs) to 20 percent of composition (by frequency of occurrence) on approximately 3,500 acres within 3 years through the reintroduction of fire.

a. This allotment objective addresses the following resource concerns:

Providing adequate forage for permitted AUMs on Stonehouse Allotment.

Livestock management that will accomplish the resource objectives outlined for Stonehouse Allotment.

b. This objective achieves the following OR/WA Rangeland Standards:

All five standards as listed under D.3.b.

c. Monitoring needs and schedule:

All monitoring studies outlined in D.1.c. and D.2.c.

Continue existing utilization studies as described for the current monitoring period.

6. Watershed Stability

Goal:

To prevent accelerated erosion within the Stonehouse Allotment.

Allotment Objective:

Scattered throughout the meadow headwaters of Riddle Creek and Deep Creek (Paddle Meadows) are areas of soil and vegetation degradation. These areas are associated with springs, overland flow, saturated soils, and possibly with past salting areas. They are depicted by soil hummocks and/or denuded vertical cuts ranging from several inches to an excess of 2 feet in height and are several feet in length.

On the sites where soil hummocks are prevalent, the objective is to increase the hydric species by 10 percent of the composition (measured by frequency of occurrence) after 5 years of adaptive management. An increase in hydric species would indicate that overland flow between the hummocks is decreased and vertical displacement of the hummocks is becoming less distinguishable.

On the sites with denuded vertical cuts, the objective is to establish perennial native vegetation cover on 10 to 20 percent of each site during the rest period associated with the prescribed fire treatment. As the vegetation cover increases, compaction should decrease and soil moisture should increase, promoting further plant recruitment. When grazing resumes, the objective is to retain the vegetation cover established during the initial rest period and to establish perennial native vegetation cover to total 30 to 50 percent of each site after 5 years of adaptive management. The long-term objective (10 to 15 years) on these sites is to have the vertical edges become inclined and to have all sites revegetated with a plant composition and density comparable to the functional portions of these ecological sites.

Reduce the amount of unstable or actively eroding banks on Riddle Creek (as identified by green-line transects) to 20 percent or less within 5 years of implementation.

Prescribed burns will be completed in a mosaic pattern of burned and unburned areas to ensure the minimum possibility for accelerated erosion.

a. This allotment objective addresses the following resource concerns:

Wetland meadow degradation on Riddle Creek Meadows and Paddle Meadows and bank stability along Riddle Creek. Ensure upland site stability.

b. This objective achieves the following OR/WA Rangeland Standards:

- Watershed Function – Uplands
- Watershed Function - Riparian/Wetland Areas

c. Monitoring needs and schedule:

Provide prescribed burn monitoring (Burns District methodology 1996) at each site (two sites monitored). Continue erosion studies on meadows and complete Riddle Creek functionality reassessment within 5 years of implementation. Continue green-line studies on Riddle Creek. Identify Soil Surface Factors for upland monitoring sites and monitor 2 (2004) years and 5 (2007) years following burning.

7. Wilderness Study Areas

Goal:

Manage WSAs under the IMP. Maintain naturalness and opportunities for solitude and primitive and unconfined recreation in the Stonehouse and Lower Stonehouse WSAs.

Allotment Objective:

Establish an upward trend in condition on Paddle Meadows and increase lower Stonehouse Creek hydric vegetation cover by 10 percent within 5 years. Paddle Meadows and the lower reach of Stonehouse Creek will be assessed for PFC within 10 years.

Improve the diversity of habitats on the deep loamy, subalpine slopes, swales, and stony loam upland ecological sites moving toward a more natural landscape through the reintroduction of fire within this fire-dependent ecosystem.

a. This allotment objective addresses the following resource concerns:

Opportunities for undeveloped recreation.

b. This objective achieves the following OR/WA Rangeland Standards:

- Ecological processes

c. Monitoring needs and schedule:

Continue WSA surveillance as outlined by current policy.

8. Recreation

Goal:

Maintain recreation access up Stonehouse Canyon (access road which forms the boundary between the two WSAs) to support a variety of recreation opportunities.

Allotment Objective:

Keep Stonehouse Road maintained and open to motorized vehicles. Manage for quality recreation opportunities.

a. This allotment objective addresses the following resource concerns:

Opportunities for undeveloped recreation.

b. This objective achieves the following OR/WA Rangeland Standards:

3) Ecological processes

c. Monitoring needs and schedule:

Monitor recreation use. Read Stonehouse Creek Road counter monthly, when area is accessible.

9. Visual Resources

Goal:

Maintain or improve the scenic quality of the area.

Allotment Objective:

Establish an upward trend in vegetative condition throughout the allotment.

Improve the diversity of habitat throughout the allotment by utilizing a variety of management tools.

a. This allotment objective addresses the following resource concerns:

The current status of riparian and upland plant communities in Stonehouse Allotment is unsatisfactory.

b. This objective achieves the following OR/WA Rangeland Standards:

All standards for rangeland health.

c. Monitoring needs and schedule:

10. Native, T&E, Special Status, and Locally Important Species

Goal:

Provide habitat to support healthy, productive, and diverse populations and communities of native plants and animals (including Special Status species and species of local importance) appropriate to soil, climate, and landform.

Allotment Objective:

Provide habitat to sustain viable populations of the following species known to exist in Stonehouse Allotment:

Steens Mountain paintbrush
Redband trout
Sage-grouse
California bighorn sheep

a. This allotment objective addresses the following resource concerns:

Current BLM monitoring studies indicate habitat for redband trout is below potential. Observations and vegetation data indicate the habitat diversity for sage-grouse and California bighorn sheep is also below potential.

b. This objective achieves the following OR/WA Rangeland Standards:

- Native, T&E, Special Status, and Locally Important Species

c. Monitoring needs and schedule:

The same monitoring studies and schedule would be used as outlined for Water Resources and Riparian Wetlands, and Upland Vegetation.

CHAPTER II: AFFECTED ENVIRONMENT

The following critical elements of the human environment are not known to exist in the allotment or would not knowingly be affected by implementation of any of the alternatives: Wild and Scenic Rivers, water quality for drinking or ground water, air quality, prime or unique farmlands, floodplains other than those addressed as streamside riparian areas, American Indian religious concerns, Federal Threatened or Endangered species, and hazardous materials. These critical elements are not addressed further in this document.

The following critical elements are known to exist or would be affected:

A. Special Status Species

Redband trout are found in Riddle Creek, which is the only stream within the allotment that has a fishery. California bighorn sheep are found mostly on the east face along the steep slopes and along the east rim portion of the allotment. Occasionally, these animals are found west of the rim within the allotment. The allotment is late spring, summer, and fall habitat for sage-grouse. Currently, there is no direct monitoring by BLM for these species. Oregon Department of Fish and Wildlife conducts annual bighorn sheep counts and sage-grouse brood counts in and adjacent to the allotment.

B. Riparian and Wetland Areas

The Stonehouse Allotment contains approximately 4.00 miles of perennial streams and 13.00 miles of ephemeral or intermittent channels. The perennial streams include Riddle, Stonehouse, and Little Stonehouse Creeks, as well as scattered tributaries flowing from springs. There are also approximately 700 acres of mesic to wet meadow areas in the upper reaches of both Riddle and Deep Creeks (Paddle Meadows). The Riddle Creek Meadows and Deep Creek (Paddle Meadows) lack the cover of herbaceous hydric species expected in properly functioning meadows. Although observations suggest that these meadow systems are reduced in potential acreage, water storage capacity, and demonstrate past accelerated erosion, rangeland monitoring indicates a stable trend in condition.

The upper reach of Riddle Creek is a low gradient stream associated with the meadow. In 1998 this stream segment was rated by an ID Team as functioning at-risk with a stable trend. The 1999 riparian vegetation inventory/monitoring data indicates the riparian plant communities lack the diversity of herbaceous hydric species which would be expected in a properly functioning system. The PFC assessment was repeated in 2002 and rated this reach as properly functioning. Although diversity of species was not observed, the expansion of stabilizing riparian vegetation (sedges) was of particular note.

The remainder of Riddle Creek is a moderate gradient stream with a cobble substrate which is rated in 1998 as functioning at-risk with an upward trend. Riparian vegetation inventory/monitoring data indicates the riparian vegetation lacks the cover and diversity of herbaceous hydric and deciduous woody species expected in a properly functioning system. Woody riparian species monitoring conducted in 1999 and 2002 indicated regeneration of willows along this reach. Inventory along the approximately 100-yard monitoring reach of stream resulted in only older age willow in 1999 and multiple ages of willow in 2002 with the majority identified as seedling age.

Stonehouse and Little Stonehouse Creeks are high gradient streams with cobble/boulder substrate. They are rated in PFC based on a 1998 assessment. The diversity of riparian overstory vegetation includes willow, dogwood, elderberry, and chokecherry. Riparian herbaceous plants exist in scattered areas where there are fine soil deposits, and sufficient sunlight is allowed through the overstory vegetation. These streams resist degradation through their well-armored streambed and banks. There are a few areas with reduced slope which lack woody vegetation, have a higher width:depth ratio than optimal, and exhibit some bank disturbance. This primarily is at the lower portion of Stonehouse Creek near the allotment boundary. These occurrences are infrequent and do not alter the stream's functionality rating.

A 1987 riparian habitat inventory of upper Stonehouse Creek rates the habitat quality as fair with 80 percent of plant succession as static and 20 percent as downward. Bank and slope erosion are also noted on 5 to 10 percent of the stream occurring where cattle can easily access the creek. In 1999 the area was grazed.

A prescribed burn was initially planned for 2000, but due to unfavorable weather conditions, the burn was not initiated until 2001 and was completed in 2002. In 2003 and 2004 the area was rested to help accelerate riparian and wetland recovery associated with these burns. It is anticipated grazing would resume in 2005.

C. Water Quality

Riddle Creek has been identified by the Oregon DEQ as water quality limited (CWA 303(d) list) based on the water temperature standard for the most sensitive beneficial use, salmonid (trout) habitat. Listing of Riddle Creek was based on BLM temperature monitoring in 1995 located at the Stonehouse Allotment boundary, representing the downstream cumulative water temperature. Stream temperature monitoring conducted during the summer of 2002 provides additional reach specific water temperature conditions within the allotment (Figure 1). The Riddle Meadows monitoring site indicates maximum stream temperatures that are below the State standard (68 ^{o}F). This is likely a combination of proximity to springs, subsurface outflow from the meadow, and the current stream condition (narrow and well vegetated). The Kuhl Springs site, located approximately 1.25 miles downstream from Riddle Meadows, displays average maximum temperatures of approximately 20 ^{o}F higher. This relatively high rate of heat gain is likely a result of limited thermal buffering, such as shade, as indicated by the lack of overstory woody vegetation cover along this reach. Additionally, this reach does not appear to receive the subsurface flow contribution from springs/seeps, meadows or floodplain as demonstrated in Riddle Meadow and the boundary site that is downstream of spring and tributary meadows. The allotment boundary monitoring site, located approximately 0.50-mile downstream of the Kuhl Springs site, demonstrates a cooling of several degrees. Although channel and riparian vegetation conditions are similar to the overall reach downstream of Riddle Meadows, cool subsurface flow contributions appear to provide thermal buffering of stream temperatures.

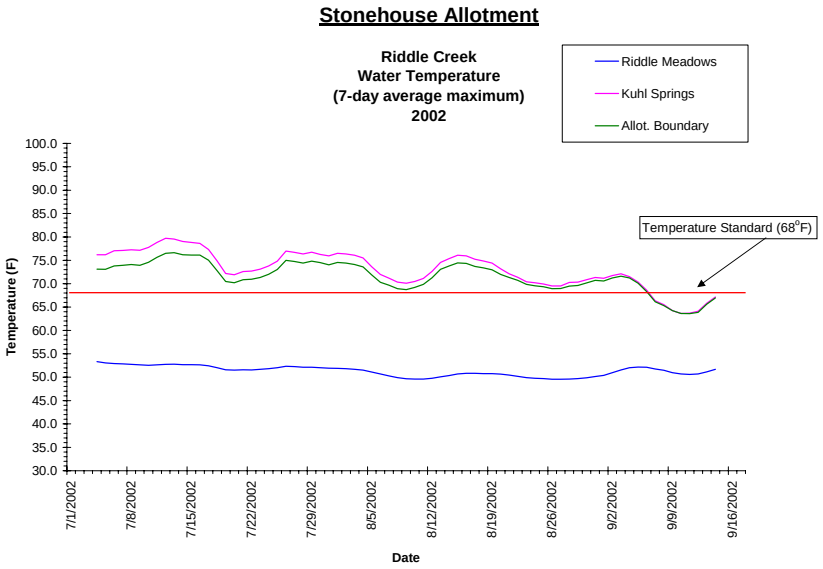

Figure 1. Riddle Creek stream temperatures in the Stonehouse Allotment, 2002.

D. Wilderness Study Areas

The Stonehouse WSA (2-23L) contains 21,325 acres of which 1,099 acres are within Stonehouse Allotment. The Lower Stonehouse WSA (2-23M) contains 8,090 acres of which 2,551 acres are within Stonehouse Allotment (see map for WSA boundaries within the allotment). Wilderness characteristics include naturalness, outstanding opportunities for solitude or primitive and unconfined recreation, and the presence of special features. The following definitions are from BLM Manual Handbook H-8550-1 – Interim Management Policy for Lands under Wilderness Review. *Naturalness* - refers to an area which "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable." *Solitude* - is defined as "the state of being alone or remote from habitations; isolation. A lonely, unfrequented, or secluded place." *Primitive and Unconfined Recreation* - is defined as nonmotorized and undeveloped types of outdoor recreation activities. *Supplemental Values* - are listed in the Wilderness Act as "ecological, geological, or other features of scientific, educational, scenic, or historical value."

Wilderness characteristics of the Stonehouse WSA are summarized from Volume I of the Oregon BLM Wilderness Study Report (1991).

Naturalness: Stonehouse WSA is in a relatively natural condition. This WSA contains a wide variety of physical features including rolling hills, steep escarpments, ridgelines, canyons, and flat basins. The most spectacular feature is the Steens Rim which offers spectacular views, colors, and topography. Habitat for a variety of big game, waterfowl, upland game birds, and other wildlife species occurs in the WSA. There are 30 unnatural features which influence less than 15 percent of the WSA: 12 reservoirs, 13 short ways totaling 14.00 miles, 2 ditches totaling about 2.00 miles, 2 fences totaling 1.00 mile, an old seeding, and an airplane landing strip. None of the unnatural features, however, is substantially noticeable. Outside sights and sounds have very minor effects on the WSA.

Solitude: Stonehouse WSA has outstanding opportunities for solitude; however, movement within the WSA may be constrained, particularly in the northern end. Topographic screening is provided by the Steens Mountain ridgeline which bisects the WSA. The west side of the area is screened from the east side by the ridgetop peaks. Small areas within the center of the study area are screened by broken ridges and rolling hills. Shallow drainages throughout the WSA also enhance the opportunity for solitude. Vegetative screening enhances opportunities for solitude. Juniper is scattered throughout the study area and aspens occurs in small groves along ridge slopes in the north, creating places for solitude. The steep east slopes of the Steens ridge also have dense juniper stands.

Primitive and Unconfined Recreation: The WSA provides outstanding opportunities for primitive forms of recreation. These activities include day hiking, backpacking, camping, hunting, and sightseeing. Hunting is the primary recreation use of the WSA.

The major attraction for day hiking would be the main ridge which overlooks Juniper, Tudor, and Fifteen Cent Lakes. Game species in the WSA include mule deer, antelope, elk, quail, and chukars. The east rim of Steens Mountain provides spectacular views of the surrounding area including the Alvord Basin and Sheepshead Mountains.

Special Features: A special wilderness feature of the Stonehouse WSA is the highly visible escarpment with its variety of landforms, colors, and vegetation. Most of the WSA is in the Riddle Mountain Wild Horse HMA, while a small area on the eastern edge is in the Heath Creek-Sheepshead HMA.

Wilderness characteristics of the Lower Stonehouse WSA are summarized from Volume I of the Oregon BLM Wilderness Study Report (1991).

Naturalness: Lower Stonehouse WSA is in a relatively natural condition. The eastern escarpment and the high plateau on the western side of the WSA provide an area with a high degree of naturalness. This east-facing escarpment is highly scenic and combines a variety of landforms, color, and vegetation. Habitat for a variety of big game, upland game birds, and other wildlife species occurs in the WSA. The WSA contains seven unnatural features that influence about 4 percent of the WSA: three reservoirs, a fence 1.25 miles long, two ways totaling 1.75 miles, and an old 780-acre crested wheatgrass seeding. The fence proposed for removal was not identified during the intensive inventory, but apparently pre-dates FLPMA and was installed and maintained by the grazing permittee.

Solitude: Opportunities for solitude are outstanding. Both topography and vegetation provide screening, but the area would support only a limited number of users. Areas with the greatest potential for solitude are in the drainages of the east-facing escarpment and a few places on the ridge top where shallow drainages and small hills provide some screening. Other portions of the WSA provide insufficient topographic screening to enhance solitude. Juniper stands and a few aspen groves offer some vegetative screening. This screening enhances solitude in the WSA.

Primitive and Unconfined Recreation: The WSA has outstanding opportunities for primitive recreation, but they are somewhat limited by the size and topography of the WSA. Hunting, day hiking, backpacking, camping, and sightseeing opportunities are available. Day hiking, backpacking, and camping are limited. Game species in the WSA include mule deer, antelope, elk, and chukars. The east rim of Steens Mountain provides spectacular views of the surrounding area including the Alvord Basin and Sheepshead Mountains. The most attractive feature within the WSA is the impressive east-facing escarpment.

Special Features: Scenic quality and botanical and wildlife values add to the WSA's wilderness values. The east-facing escarpment is highly scenic and combines a variety of landforms, colors, and vegetation. *Lupinus biddelei*, a BLM Special Status species, occurs at the lower elevations. Greater sage-grouse, a BLM Special Status species which is proposed for listing under the Endangered Species Act, are found at the upper elevations. Mule deer winter range is found on the lower east-side slopes.

E. Cultural Resources

A total of 971 acres of cultural resource inventory has occurred in the allotment. This amounts to approximately 9 percent of the allotment. Both inventories were sample surveys for prescribed fire projects.

Only one site, the Ward Cabin, has been inventoried within the allotment. This small homestead cabin is maintained in serviceable condition by hunters visiting the allotment in the fall. The cabin, associated outbuilding, and corral were protected during the Stonehouse prescribed burn in fall 2002.

Other archaeological properties likely to occur in the allotment include historic carved old-growth aspen trees, sheepherder camps, historic/prehistoric root gathering camps, and prehistoric hunting camps. Because the Stonehouse area is high elevation and well watered, the likelihood for moderately important sites to be found there is high. However, deeply buried, regional to national importance, National Register eligible sites would be rarely found in this allotment.

It is not known if the Stonehouse Allotment is currently used by American Indian groups for traditional gathering or religious uses. It is known that Steens Mountain is used for ceremonial and traditional gathering uses, although the precise locations of these activities are not known. Steens Mountain is considered a sacred place to some of the Burns Paiute elders.

The following noncritical elements are known to exist or would be affected:

A. Recreation

Stonehouse Canyon is an important public access route to the northeast part of Steens Mountain. The access road separates the Stonehouse and Lower Stonehouse WSAs and offers some of the best scenic views in the area. Recreational opportunities in the allotment include sightseeing, hiking, camping, driving for pleasure, hunting, backpacking, and horseback riding.

B. Vegetation

Due to human interruption of the natural fire frequency, past grazing practices, and possible changes in the climate, western juniper has encroached into much of the Stonehouse Allotment (Mehringer and Winyard, 1990; Johnsen, 1962; Burkhardt and Tisdale, 1976; Shinn, 1980; Miller, R.F. and Rose, J.A. 1995; Miller, R.F. and Wigand, P.E. 1994; Miller, Richard F. and Rose, J.A. 1999). As these trees increase in size and density, plant species diversity and plant community structure declines. Such plants as aspen, mountain big sagebrush, snowberry, serviceberry, bitterbrush, Idaho fescue, bluebunch wheatgrass, Thurber's needlegrass, various lupines, and Indian paintbrush are reduced in number.

Additionally, as juniper density and cover increases, the amount of bare ground also increases as the understory plants are reduced (Burkhardt and Tisdale, 1976; Miller, R.F., Svejcar, T.J., and Rose, J.A. 2000; Bates, J.D., Miller R.F., and Svejcar, T. 1998). More surface soil movement has been observed in dense western juniper stands where understory plants have been reduced (Davenport, D.W., Breshears, D.D., Wilcox, B.P, and Allen, C., 1998; Buckhouse, J.C. and Maitison, 1980).

There are two dominant upland vegetation communities within the Stonehouse Allotment. The first of which is low sagebrush and Idaho fescue with associated forbs located on gravelly soils on the ridges. The second major upland plant community is mountain big sagebrush, Idaho fescue, and mountain brome with associated forbs. This community is located in swales, subalpine slopes, and bottoms with deep to moderately deep soils typically gravelly to stony. Many of these communities have been encroached by juniper and are in the early stage of woodland development.

Aspen communities exist in small pockets scattered on the north and east aspects. These communities developed on moderately deep to deep loamy soils in areas where snow accumulates. The understory species of this community is similar to the mountain big sagebrush communities but with a greater diversity of forbs. Many of the aspen stands are encroached by western juniper.

There are approximately 700 acres of wet meadows, mainly in the headwater meadows of Riddle Creek and Deep Creek. These meadows are dominated by mountain big sagebrush, silver sagebrush, bluegrasses, redtop, sedges, rushes, dandelions, clover, yarrow, and various other forbs. The major streams include Stonehouse and Little Stonehouse which support a deciduous woody overstory and a diverse herbaceous understory. Riddle Creek supports a mixed herbaceous community of bluegrasses, redtop, various forbs, sedges, and rushes with only a scattered, mature, single-age class of willow.

C. Wildlife

The allotment is late spring, summer, and fall range for mule deer, elk, and antelope. Upland game birds include mourning doves in the spring and summer. Chukars are abundant in the lower slopes and within Stonehouse Canyon. California quail are also found in Stonehouse Canyon and lower elevations within the allotment. Common snipe inhabit areas around springs, wet meadows, and riparian areas.

Many raptors are found within the general area such as golden eagles, prairie falcons, red-tailed hawks, kestrels, and great horned owls. The area also provides habitat for many other bird species and a myriad of small mammals as well as badgers, cougars, bobcats, and coyotes.

D. Fisheries

Riddle Creek provides the only fish habitat in the allotment. The recognized species present in Riddle Creek is redband trout, a BLM Special Status species as identified in the Special Status Species section. Redband trout habitat condition is relative to water quality, riparian vegetation, and stream function. As discussed in the Riparian/Wetland and Water Quality sections, the majority of Riddle Creek within the allotment lacks overhanging cover, instream habitat complexity (pools, rootwads, undercut banks), and water temperatures to provide suitable habitat conditions for redband trout.

E. Visual Resources

The Stonehouse Allotment is located within Visual Resource Management (VRM) Class I and IV areas. The WSAs are VRM Class I, while the non-WSA portion is VRM Class IV. The VRM Class I objective is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention. The VRM Class IV objective is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

In the Proposed RMP, scheduled for completion in October 2004, the VRM Class IV areas in the Stonehouse Allotment would be redesignated as VRM Class III. The VRM Class III objective is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the causal observer. Changes should repeat the basic elements found in the predominant natural features of the landscape.

CHAPTER III: ALTERNATIVES INCLUDING THE PROPOSED ACTION

A. Proposed Action - Four-Pasture, Adaptive Rotational Grazing

The allotment would be divided into four pastures (Riddle Creek, Stonehouse Canyon, Ward and South) as shown on the map in Appendix B. The season of use would be June 1 to September 8 with licensed use to be 700 cattle for 2.5 months. When a pasture is designated for early use, the season of use would be June 1 to July 15. However, the early season may be extended up to 2 weeks by the authorized officer depending on key plant species phenology, growing season conditions (cool wet season, late snow conditions), current utilization levels, and when grazing began. When late season is designated, the season of use would be July 16 to September 8. The four pastures would be grazed and rested in the following sequence on a 4-year cycle.

	Riddle Creek	Ward	South	Stonehouse Canyon
Year 1	Early	Late	Early	Trail Only
Year 2	Early	Rest*	Late	Early
Year 3	Early	Late	Rest*	Early
Year 4	Rest	Early	Late	Trail Only

When a 4-year cycle is completed, the cycle sequence would begin again. The Stonehouse Canyon is steep, forage species are phenologically earlier and there are two streams in the pasture, so it would be grazed first for only 2 to 3 weeks when the Ward or South Pastures are rested. To ensure upland forage plant species (grass, forbs, and shrubs) can complete their reproductive cycle, 1 out of 4 years of rest from grazing is planned for the Ward, South, and Riddle Creek Pastures. However, due to the sensitive nature of the Stonehouse and Riddle Creek Pastures for riparian management and the need for maximum flexibility to accomplish objectives, we may provide only partial rest in the Ward and South Pastures as indicated in the general schedule above (*).

Management would be adaptive with consideration given to past season's monitoring results as well as preseason monitoring and current climatic conditions, such as late snowmelt, a cold early season which delays plant phenology stages or earlier phenological development resulting from warm, early-growth conditions. This may result in pasture season changes, timing of grazing changes or additional rest or other modifications to the general schedule to attain management objectives. All changes and/or modifications to the general schedule would be documented in the allotment file with rationale for the modifications.

Grazing would be managed by controlling the timing, duration, and intensity of grazing by providing periodic rest. There would be an additional 3.00 miles of pasture fencing required to create the Ward, Riddle Creek, and South Pastures. There would be one spring development and pipeline which would be 2.30 miles in length with three troughs in the Ward Pasture. There would also be one new reservoir constructed and an additional 3.00 miles of fencing removed in the Ward Pasture, and 9 existing waterholes would be cleaned out or maintained as needed. Two cattleguards would be installed on the proposed Stonehouse Canyon Pasture fence, one of which would be adjacent to the Stonehouse WSA. Maintenance of the cattleguards may occur once every 3 to 5 years. The 2.75 miles of existing fence would be removed from the Lower Stonehouse WSA. This is an old fence with mostly wooden posts. Steel posts were used in recent repairs. WSA fence removal would be done by volunteers or the BLM.

The Stonehouse Canyon Pasture fence would have two locations (Appendix B) analyzed due to WSA considerations on the north boundary of the pasture.

Option A would require 1.60 miles of fencing on the northern boundary of which 1.50 miles would be within the Stonehouse WSA and 0.10-mile would be outside the WSA. The western boundary would have 1.50 miles of fence outside of WSAs and the southern boundary would have 0.40-mile of fence within the Lower Stonehouse WSA and 0.10-mile of fence outside of the WSAs. In total, this would require 1.70 miles of fence outside WSAs and 1.90 miles of fence within two WSAs for a total of 3.60 miles. This would limit livestock grazing in 771 acres of Stonehouse WSA and 1,025 acres of Lower Stonehouse WSA.

Option B would require 2.50 miles of fencing on the northern boundary outside of the WSA. The western boundary would have 1.50 miles of fence outside of WSAs and the southern boundary would have 0.40-mile of fence within Lower Stonehouse WSA and 0.10-mile of fence outside of WSAs. In total, this option would require 4.10 miles of fence outside of WSAs and 0.40-mile within one WSA for a total of 4.50 miles. This would limit livestock grazing in 1,283 acres of Stonehouse WSA and 1,025 acres of Lower Stonehouse WSA.

Maintenance on these fences would require approximately 1.5 days annually, would allow the use of ATVs for transporting materials to and along the fences, and the use of chain saws where needed to maintain the fences.

All fences would be 4-strand barbed wire with the bottom strand smooth. The spacing of the wire would be 16 inches aboveground level for the lowest strand, 22 inches for the second, 36 inches for the third, and 42 inches for the top. This wire spacing would be applicable for bighorn sheep, mule deer, elk, and pronghorn antelope.

The AMP would be a term and condition of the 10-year grazing permit. Billing would be based on the actual use report which would be submitted to BLM within 15 days of the last day of use. Flexibility in licensing and management would be as described under adaptive management.

B. Alternative I - Three-Pasture, Adaptive Rotational Grazing

The allotment would be divided into three pastures that would be grazed (Riddle Creek, Ward, and South). Stonehouse Canyon would be excluded from livestock grazing. Cattle would be trailed up and down the mountain through this exclusion area only. Trailing is expected to take 2 days moving up and 2 days when coming off the mountain.

The season of use would be June 1 to September 8 with licensed use to be 700 cattle for 2.5 months during this season. When a pasture is designated for early use, the season of use would be June 1 to July 15. However, the early season may be extended up to 2 weeks by the authorized officer depending on key plant species phenology, growing season conditions (cool wet season, late snow conditions), current utilization levels, and when grazing began. When late season is designated, the season of use would be July 16 to September 8. The three pastures would be grazed and rested in the following sequence on a 4-year cycle.

	Riddle Creek	Ward	South
Year 1	Rest	Late	Early
Year 2	Early	Rest	Late
Year 3	Early	Late	Rest
Year 4	Rest	Late	Early

When a 4-year cycle is completed, the cycle sequence would begin again. Management must be adaptive with consideration given to past seasons' monitoring results as well as preseason monitoring and current climatic conditions, such as late snowmelt, a cold early season which delays plant phenology stages or earlier phenological development resulting from warm, early-growth conditions. This may result in pasture season changes, timing of grazing changes or additional rest or other modifications to the general schedule to attain management objectives.

All changes and/or modifications to the general schedule would be documented in the BLM allotment file with rationale for modifications. This alternative would require approximately 1.25 miles of pasture fences on public land in addition to the Stonehouse Canyon exclosure fence (Appendix C). Both options for the Stonehouse Canyon exclosure fence are also considered in this alternative. Cattleguards would be installed at the two locations where the proposed Stonehouse Canyon exclosure fence crosses roads, one of which would be adjacent to the Stonehouse WSA (see Appendix C for Alternative I map). Maintenance of the cattleguards may occur once every 3 to 5 years.

There would be one spring development and pipeline which would be 2.30 miles in length with three troughs in the Ward Pasture. There would also be one new reservoir and 3.00 miles of fencing to be removed in the Ward Pasture. The 2.75 miles of existing fence would be removed from the Lower Stonehouse WSA. This is an old fence with mostly wooden posts. Steel posts were used in recent repairs. WSA fence removal would be done by volunteers or the BLM. The proposed locations of the structures and fence removal are shown on the map in Appendix C.

The AMP would be a term and condition of the 10-year grazing permit. Billing would be based on an actual use report which would be submitted to BLM within 15 days of the last day of use. Flexibility in licensing and management would be as described under adaptive management.

C. Alternative II - Early Season Use Only

The allotment would have no new fencing or water developments. The season of use would be June 1 to July 15 with no change in the permitted AUMs. However, the early season may be extended up to 2 weeks by the authorized officer depending on key plant species phenology, growing season conditions (cool wet season, late snow conditions), current utilization levels, and when grazing begins. Fences both inside and outside of the WSAs would be removed under this alternative. The 2.75 miles of existing fence would be removed from the Lower Stonehouse WSA. This is an old fence with mostly wooden posts. Steel posts were used in recent repairs. WSA fence removal would be done by volunteers or the BLM.

Management must be adaptive with consideration given to past seasons' monitoring results as well as preseason monitoring and current climatic conditions, such as late snowmelt, a cold early season which delays plant phenological development or development is accelerated due to warm, early-growth conditions. This may result in timing of grazing changes, season of use changes, rest or other modifications to the general schedule to attain management objectives. All changes and modifications to the general schedule would be documented in the BLM allotment file with rationale for modifications. As with other alternatives, billing would be based on actual grazing use and the AMP would become a term and condition of the 10-year permit.

D. Alternative III - No Action

Under this alternative, livestock use would continue as currently permitted, 700 cattle, July 1 to September 15, equaling 1,772 AUMs. There would be no changes, no water developments, no pasture fencing or exclosures, and no fence removal.

E. Alternative IV – Two-Pasture, Early-Deferred Rotational Grazing

The allotment would be divided into two pastures with two exclosures (Appendix D). Stonehouse Canyon would be excluded from livestock grazing. Cattle would be allowed to trail through this excluded area when going to and from the allotment. Trailing is expected to take 2 days moving up the mountain and 2 days coming off. This alternative would also exclude livestock from Riddle Creek by constructing an exclosure the length of the stream on public land (approximately 1.90 miles per side, for a total of 3.80 miles) within the Stonehouse Allotment. Leppy Springs and Charles Kuhl Springs would be within this exclosure. Both springs would have water piped to a trough outside of the exclosure to provide livestock water. The exclosure width and exact location would be determined by the ID Team with input from the livestock permittee. The exclosure would include the entire lateral width of the riparian zone at a minimum.

The Riddle Creek exclosure, troughs, and pipelines would be between the Ward and South Pastures.

There would be an additional 1.20 miles of fence required to separate the two pastures that would be grazed.

All fence construction would be as described under the proposed action. Both options for the Stonehouse Canyon exclosure fence are also considered in this alternative.

There would be two 14-foot cattleguards installed where the Stonehouse Canyon exclosure fence crosses roads, one of which would be adjacent to the Stonehouse WSA (Appendix D). Maintenance of the cattleguards may occur once every 3 to 5 years. Also, 2.75 miles of existing fence would be removed from the Lower Stonehouse WSA and 2.00 miles of fence would be removed from the Ward Pasture (Appendix D). The Lower Stonehouse WSA fence is old with mostly wooden posts. Steel posts were used in recent repairs. WSA fence removal would be done by volunteers or the BLM.

The season of use would be June 1 to September 8 with licensed use for 700 cattle, 2.5 months during the season. The early-use pasture would have a season of use of June 1 to July 15. However, the early season may be extended up to 2 weeks by the authorized officer depending on key plant species phenology, growing season conditions (cool wet season, late snow conditions), current utilization levels, and when grazing began. The season for late use would be July 16 to September 8. The two pastures (Ward and South) that would be grazed under this alternative would be grazed in the following sequence on a 3-year cycle. When a 3-year cycle is completed, the cycle sequence would begin again.

	Ward	South
Year 1	Late	Early
Year 2	Late	Early
Year 3	Early	Late

Management must be adaptive with consideration given to past seasons' monitoring results as well as preseason monitoring and current climatic conditions, such as late snowmelt, cold early season which delays plant phenology stages or earlier phenological development resulting from warm early growth conditions. This may result in pasture season changes, timing of grazing changes or additional rest or other modifications to the general schedule to attain management objectives. All changes and/or modifications to the general schedule would be documented in the BLM allotment file with rationale for modifications.

This alternative would also provide for two spring developments, 2.30 miles of pipeline, and four troughs within the Ward Pasture to provide adequate water for deferred grazing. The springs would be developed so only part of the flow would be diverted into pipelines. Float valves would be used on all troughs and the water would be shut off at the spring source when not in use by livestock. Maintenance of 10 existing reservoirs would also be completed. The AMP would be a term and condition of the 10-year grazing permit. Billing would be based on the actual use report which would be submitted to BLM within 15 days of the last day of use.

Flexibility in licensing and management would be as described under adaptive management.

CHAPTER IV: ENVIRONMENTAL CONSEQUENCES

A. Proposed Action - Four-Pasture, Adaptive Rotational Grazing

1. Anticipated Effects

Critical Elements

a. Special Status Species

Increased riparian vegetation cover along Riddle Creek discussed in the Riparian section would provide channel stability to increase habitat complexity in the form of pools and undercut banks, and provide overhanging cover. Increased riparian vegetation cover along Riddle Creek would also improve thermal buffering of water temperature. Additionally, increased vegetation cover and the likely increased capture and storage of water in Riddle Meadow should increase summer flows and thermal buffering of water temperature through prolonged release of ground water. Increased vegetation along the streambank would reduce erosion and potential sediment intrusion of spawning sites. Improved stream habitat conditions would increase the distribution and abundance of redband trout in this reach of Riddle Creek.

Increased riparian vegetation cover along Riddle Creek would improve summer and brood-rearing habitat for sage-grouse which use the meadows extensively during this time period. Depending on the season of use for other meadows such as Coyote Creek or Paddle Meadows, cover will vary. Meadows that are grazed early will have a chance for vegetation to regrow where moisture is available. Meadow areas used later will probably not regrow enough to provide any cover for feeding sage-grouse. The less cover available in the meadows increases the chances of predation on sage-grouse. Sage-grouse will benefit from increased early forb availability in those pastures that are deferred or rested. This could increase recruitment of chicks into the population.

The increase in fencing in the allotment due to the creation of pastures will increase the chances for sage-grouse and bighorn sheep to become entangled in or collide with the fences. The use of wooden stays or flagging along new fencelines would reduce the chances of collision or entanglement. Constructing the fences with proper wire spacing and using terrain features such as rock outcrops where bighorn sheep can go around the end of the fences, would also reduce these risks. Fences may provide additional raptor perches which could increase predation on sage-grouse.

Disturbance due to construction of fences and pipelines would be temporary. Special Status species would be displaced during the construction but would return to those areas after construction is completed.

b. Riparian and Wetland Areas

Under this alternative riparian and wetland habitat would improve.

The cattle would be trailed through Stonehouse Canyon 2 years out of 4 which would provide rest for the riparian communities on Stonehouse and Little Stonehouse Creeks during these years. The 2 to 3 weeks use outlined in the general schedule for the other 2 years of a 4-year cycle would provide for adequate regrowth of herbaceous hydric species and grazing would be at a time when there is less preference for woody species. There would be some use along the lower portions of Stonehouse Creek; however, the livestock would be distributed in the uplands and would not concentrate on the lower stream as in the past. Overall effects to these streams would be maintenance of PFC and the existing diverse woody riparian vegetation, and increase riparian vegetation and bank stability along the lower reach of Stonehouse Creek.

Riddle Creek would have 1 out of 4 years of rest with 3 years of early (approximately 4 weeks or less) use. The adaptive capabilities of this proposed management would provide for added rest or other management changes to accelerate riparian habitat improvement. The meadow reach would be maintained at PFC and the downstream reach would progress toward PFC. The dense stand of herbaceous riparian vegetation (sedges/rushes) along the meadow reach would be maintained. Expansion of riparian vegetation including willow recruitment on the lower 1.50 miles of Riddle Creek would continue.

Paddle Meadows (Deep Creek) in the South Pasture would be grazed early, late, rested and late in a 4-year cycle. During early use and rest hydric species would complete their reproductive cycle facilitating maintenance and expansion. During the 2 out of 4 years most hydric plant species would complete their reproductive cycles although some may not.

An intermittent tributary to Riddle Creek and Coyote Creek and associated wetlands in the Ward Pasture would be grazed late, rested, late and early in a 4-year cycle with the same effects described for Paddle Meadows. Additionally, the proposed water development would provide an alternate source of water and reduce use along the Coyote Creek riparian. Concentrated use may occur at the Coyote Creek headwater spring and wetland area under the Option B pasture fence location. The proposed reservoir along the intermittent tributary of Riddle Creek would result in disturbance of a small portion of the wetland area.

c. Water Quality

Water quality would be improved through increased riparian vegetation along Riddle Creek. Increased riparian vegetation and channel stability would increase thermal buffering of water temperature and reduce potential sediment input.

d. Wilderness Study Areas

Implementation of Stonehouse Canyon exclosure fence Option A would result in the construction of 1.90 miles of steel and barbed wire fence in the two WSAs; 1.50 miles in Stonehouse WSA and 0.40-mile in Lower Stonehouse WSA. One cattleguard would be installed immediately adjacent to Stonehouse WSA. Livestock grazing would be limited in 771 acres of Stonehouse WSA and 1,025 acres of Lower Stonehouse WSA for a total of 1,796 acres.

Implementation of Stonehouse Canyon exclosure fence Option B would result in the construction of 0.40-mile of steel and barbed wire fence in Lower Stonehouse WSA. Livestock grazing would be limited in 1,283 acres of Stonehouse WSA and 1,025 acres of Lower Stonehouse WSA for a total of 2,308 acres.

Naturalness: Option A - Naturalness in the two WSAs would be diminished by the presence of an additional 1.90 miles of steel and barbed wire fence. The construction of an unknown number of rock cribs and the installation of one cattleguard would decrease naturalness by increasing the area affected by the forces of man. Removal of 2.75 miles of old fence would increase naturalness in the Lower Stonehouse WSA; naturalness would not be increased in the Stonehouse WSA. The use of ATVs to build new fence, remove old fence, and maintain the new fences could create new ways in the WSAs, thereby further increasing the presence of man. The imprints of man's work would be more noticeable and the primeval character of the WSAs would be affected. Option B – Naturalness in the Stonehouse WSA would not be increased or decreased.

Naturalness in the Lower Stonehouse WSA would be diminished by the presence of an additional 0.40-mile of steel and barbed wire fence. The construction of an unknown number of rock cribs would decrease naturalness by increasing the area affected by the forces of man. However, removal of 2.75 miles of old fence would increase naturalness in the Lower Stonehouse WSA through the removal of a manmade structure. The use of ATVs to build new fence, remove old fence, and maintain the new fences could create new ways in the WSAs, thereby further increasing the presence of man. The imprints of man's work would be more noticeable and the primeval character of the WSA would be affected.

Solitude: During fence construction and maintenance, solitude in the WSAs would be decreased by sights and sounds of people, ATVs, and chain saws. Solitude opportunities in the Lower Stonehouse WSA would be improved through the removal of old fences. Option A – Solitude in the WSAs would be diminished by the presence of additional fences and rock cribs. Option B – Solitude in the Lower Stonehouse WSA would be diminished by the presence of an additional fence and rock cribs.

Primitive and Unconfined Recreation: Primitive and unconfined recreation opportunities would be improved through the removal of old fences. Option A – Hiking, backpacking, hunting, and horseback riding in the WSAs would be constrained by the presence of two additional fences that would run from the west edge of the WSAs to the rim. Option B – Hiking, backpacking, hunting, and horseback riding in the Lower Stonehouse WSAs would be constrained by the presence of one additional fence that would run from the west edge of the WSA to the rim.

Special Features: Options A and B – No special features in the WSAs would be affected.

e. Cultural Resources

Areas considered for ground-disturbing activities, i.e., fences, pipelines, and troughs would need to be inventoried for cultural resources including American Indian traditional use areas. Mitigation measures for significant sites, features, and use areas may include, but are not limited to, avoidance, data collection, and monitoring. Additional cultural resource inventory, focused on livestock congregation areas (i.e., waterholes, road intersection with fencelines, fence corners, spring developments, riparian and adjacent areas), needs to be completed in order to adequately evaluate the cultural resources and analyze the affect of other resources on cultural resources in the Stonehouse Allotment.

Noncritical Elements

a. Recreation

Effects to recreation in the WSAs are described above in the WSA section. Recreation in the remainder of the allotment would generally not be affected, except for the inconvenience of opening and closing gates on the new fences.

b. Vegetation (Uplands)

This proposed management would increase grazing use on much of the upland plant communities. Utilization levels would be expected to be light to moderate and management would limit utilization of key species to 50 percent. The change of timing of grazing changes plant species palatability for livestock, i.e., cattle use more browse during late season and less in early season. The amount of time spent in plant community types varies by season, i.e., livestock need for shade in aspen communities increases in late (hot) season. The grazing management outlined in this alternative would allow upland plant communities to function and provide for plant community health.

For the Stonehouse Pasture, this alternative outlines trailing (2 days moving up the mountain and 2 days coming home) for 2 years during a 4-year cycle and 2 to 3 weeks of early grazing use for 2 years of a 4-year cycle. Essentially during trailing most of the pasture would be rested from grazing. This would allow upland plants to complete their reproductive cycle during these years. During early use most of the upland plants that are grazed would complete their reproductive cycle as long as adequate moisture is available for growth following grazing. Those areas within the canyon, where cattle currently concentrate, would improve under this management. Under this four-pasture, adaptive, rotational grazing system livestock distribution would be improved compared to all alternatives analyzed. The duration of use within an area would be reduced from the current 10 to 12 weeks to 2 to 5 weeks, reducing the frequency of repeat defoliation of desirable forage plants, providing these plants an opportunity for regrowth and completion of the reproductive cycle. All pastures would be provided periodic rest which would provide for plant vigor and ensure plants complete their reproductive cycle. The Riddle Creek Pasture would be managed as a riparian pasture with the grazing use early and duration of use typically 4 weeks or less which would provide for regrowth of upland plants when adequate moisture is available.

There would be rest from grazing provided at least 1-year of a 4-year cycle with the ability to provide additional rest when needed to accelerate accomplishment of allotment objectives. This would ensure upland plant community vigor and reproduction. The Ward and South Pastures would have 2 of 4 years with partial deferment which would provide for most desirable forage plants to complete their reproductive cycle.

This alternative would provide for watershed function of uplands and it would accomplish the allotment-specific objectives for upland vegetation. Having four pastures increases the management flexibility in adaptive-rotational grazing to adjust grazing to attain allotment-specific objectives.

c. Wildlife

The management outlined in this alternative would provide improved upland habitat condition in all pastures. The incorporation of rest from grazing and the reduced length of time for livestock grazing in each area would ensure improved upland habitat with adequate forage and cover.

The wetland meadows would improve. This alternative would provide rest or partial rest 1 out of 4 years on Paddle Meadows, which would provide additional opportunities for hydric species recovery and for overall improvement of the meadows. The 2 years of late season use would be for 4 to 5 weeks which would lessen repeat defoliation on hydric species. However, monitoring to ensure adequate cover for dependent wildlife would be critical. The Riddle Creek meadows would have 1 out of 4 years of rest from grazing and early season grazing the other 3 years of a 4-year cycle. This management would assure the achievement of the Standards for Rangeland Health and accomplishment of allotment- specific objectives. This would accelerate the habitat improvements for all wetland meadows.

The Option B proposed north boundary fence location would cross wildlife trails which are heavily used by deer and elk coming in and out of Stonehouse Canyon. It would also tie into the existing boundary fence which would require animals to cross these fences. This fence location may allow additional predation as animals cross the fence and would create a possible hazard. Option A fence location is south of wildlife trails into the canyon and would not create as much of a hazard to wildlife. This location also would tie into a topographic (rock, steep slope) feature which would allow wildlife species to trail around fencing.

All fencing would be constructed to BLM standards to facilitate use by antelope, deer, elk, and bighorn sheep.

Disturbance due to construction of fences and pipelines would be temporary. Wildlife would be displaced during the construction but would return to those areas after construction is completed.

d. Fisheries

See redband trout under the Special Status Species section.

e. Visual Resources

Option A would add a total of 6.60 miles of fence to the landscape, 1.90 miles of which would be in the WSAs. A portion of the fence in Stonehouse WSA may be screened by topography or vegetation. The Lower Stonehouse WSA fence would not be screened. Option B would add a total of 7.50 miles of fence to the landscape, 0.40-mile of which would be in the Lower Stonehouse WSA. Fences generally add short vertical lines, and, when seen from certain angles, long horizontal, vertical or diagonal lines to the landscape. The metal fencepost color may increase or decrease visibility of a fence. Red, white-topped red, and white-topped green fenceposts increase color contrasts between the posts and the surrounding landscape, thereby increasing the overall visibility of the fence. All green fenceposts generally blend into the landscape and reduce fence visibility. The use of two wooden fence stays per span would further increase color contrasts by adding light-colored vertical lines to the landscape. The construction of rock cribs for the fences would add black, cylindrical forms to the landscape. In many cases, the actual fenceline is not visible, but the rock cribs contrast strongly with the vegetation and topography and attract attention. Additionally, "fenceline contrasts," the color and texture differences between grazed and ungrazed pastures, would be created. Any fenceline contrasts would be most evident on the west-facing slopes in the WSAs.

Cattleguards introduce complex rectangular and triangular forms into the landscape. Cattleguards are usually painted yellow which contrasts sharply with the predominant greens, browns, and blacks of the landscape.

The use of ATVs for fence construction and maintenance could create sinuous linear features through the crushing of vegetation and exposure of soil. Line, color, and texture contrasts could be created. The stage of vegetation growth and the wetness of the soil would affect degree of contrast.

Developing a spring and installing a pipeline and three troughs would introduce a variety of manmade features into the landscape. Galvanized steel culverts are used for the head box and valve boxes. Generally, only the lid of the head box could be visible. Because the lid is black, it does not attract attention and does not contrast with the surrounding landscape. Where the galvanized steel culverts extend aboveground, shiny silver, cylindrical forms are introduced. Installing a buried pipeline creates a short-term linear feature and short-term color contrasts from soil exposure and vegetation crushing and removal. The three troughs would introduce boxy, rectangular forms and their use would result in barren areas around them. These form and color contrasts are easily recognized and would attract attention.

Constructing a pit reservoir would introduce a solid trapezoidal form and an irregularly-shaped concave feature into the landscape. Color contrasts would result from the exposure of soils dug from the basin to create the dam. In the long term, the dam would revegetate and become less apparent.

A total of 5.75 miles of fence would be removed from the allotment. Removal of the fences in the Stonehouse Allotment would eliminate a variety of manmade features from the landscape, including short vertical lines, long horizontal lines, and dark cylindrical forms. The use of ATVs for fence removal could create sinuous linear features through the crushing of vegetation and exposure of soil. Line, color, and texture contrasts could be created. The stage of vegetation growth and the wetness of the soil would affect degree of contrast.

VRM Class IV (or III) objectives would be met for the non-WSA portion of the allotment. VRM Class I objectives would not be met for the WSA portion of the allotment. Additional mitigation would be needed for the fences proposed for the WSAs.

2. Mitigating Measures

a. Special Status species and cultural and historic surveys would be completed on sites prior to construction of structures. Any possible effects to these values would be mitigated.

b. Rangeland monitoring studies would be reviewed annually with the grazing permittee and adjustments in management would be made, as needed, to ensure allotment management objectives are met.

c. All green fenceposts should be used. Any aboveground portions of galvanized metal culverts and valve box lids should be painted a flat black.

d. All water troughs would be equipped with wildlife escape ramps to ensure small animals do not drown.

e. After one grazing cycle (4 years) as outlined under this alternative, rangeland monitoring studies would be formally evaluated. At this time, adjustments necessary to meet objectives that were not made under yearly review would be implemented. This would be done through cooperation and consultation with the grazing permittee. If changes needed to reach objectives cannot be attained through agreement, a formal decision would be issued.

f. Minimize the use of wooden fence stays in areas visible from the WSA boundary roads. If there are concerns about livestock or wildlife not recognizing the fence, then white rags could be tied to the fence at appropriate intervals. The rags will rot off by the time the livestock/wildlife are familiar with the fence.

g. The use of wood or galvanized pipe brace panels or other method should be considered where practicable and where rock cribs would be highly visible. If galvanized pipe brace panels are used, the pipes should be painted flat black.

h. All maintenance should comply with mitigation measures. Mitigation measures should be included as stipulations in any maintenance agreements.

i. Should the WSAs be designated as wilderness, motorized access for fence maintenance would not be allowed. (This is required by the IMP.)

3. Cumulative Effects

The cumulative effects of this alternative would be the achievement of the management objectives outlined for the allotment and achievement of the *Standards and Guidelines for Rangeland Health for Oregon and Washington*. Specifically, those guidelines and standards identified as not in conformance or not achieved by the 1999 BLM allotment analysis and evaluations are summarized below.

a. Guidelines

1) The season, timing, frequency, duration, and intensity of livestock grazing use should be based on physical and biological characteristics of the site and management unit.

This alternative would change the season, timing, frequency, and duration of use and adjust the intensity of grazing based on the physical and biological characteristics of the site.

2) Provide periodic rest from grazing for rangeland vegetation during critical growth periods to promote plant vigor, reproduction, and productivity.

This alternative provides for partial deferment for uplands, early use and a combination of partial deferment on the wetland meadows, and early use and periodic rest from livestock grazing in riparian communities on Riddle Creek, Stonehouse, and Little Stonehouse Creeks.

b. Rangeland Health Standards

1) Watershed Function - Uplands

The mountain sagebrush-bunchgrass ecological sites were determined to be functioning at-risk due to plant composition, community structure, and lack of direct ground cover. Livestock was not a causal factor. Fire has been reintroduced into these plant communities because the disturbance of the historical fire regime was a causal factor. The proposed livestock management would maintain this diversity, structure, and ground cover.

2) Watershed Function - Riparian/Wetland Areas

Riddle Creek is identified as functioning at-risk with livestock as a causal factor. Indicators are a less than potential deciduous woody species cover and a lack of varied age classes. The herbaceous community is lacking hydric species cover. The width:depth ratio, sinuosity, bank stability, and floodplain accessibility were also determined to be below potential for this type of stream. The proposed action would allow for recovery of this stream to attain PFC. All indicators of functionality deficiencies would improve.

Stonehouse and Little Stonehouse Creeks were identified as being in PFC, however, the lower reaches have some bank instability and reduced riparian vegetation cover. Riparian vegetation cover and bank stability would increase in the lower reaches. These streams would be maintained at PFC.

The lack of standing vegetation following grazing on wetland meadows was identified in the evaluation as affecting wildlife habitat and the capture, storage, and safe release of water. There was also accelerated erosion noted on portions of the wetlands.

This alternative would increase hydric species diversity, increase hydric vegetation ground cover, and decrease soil compaction. Paddle Meadows and Riddle Creek Meadows were identified as functioning at-risk due to a lack of hydric vegetation and an invading xeric plant community.

This alternative would provide an early and a partially deferred season of use with a reduced duration of use. These management actions would improve hydric species cover.

3) Ecological Processes

The ecological processes are functioning but may be at-risk on wetlands and mountain sagebrush communities with livestock possibly being a causal factor. Indicators are current plant composition, community structure, and plant species diversity.

This alternative would provide an earlier season of use, shorten the duration of use in each area, provide for partial deferment with 4 years of initial rest from grazing. Trailing would be allowed within Stonehouse Canyon exclosure. These management actions are expected to increase plant species diversity, plant community structure, and improve plant composition. The plant community changes would ensure the functioning of ecological processes.

4) Water Quality

This alternative would reduce livestock grazing within the riparian communities of Riddle Creek on public land and facilitate maintenance and recovery riparian vegetation and channel stability, and progress toward meeting water quality standard for temperature.

5) Native, Special Status, and Locally Important Species

This standard was not achieved for redband trout which are only found in Riddle Creek within the Stonehouse Allotment. Livestock were determined to be a causal factor. The indicators used for this determination were water temperature and bank stability. Indirect indicators of habitat quality are riparian plant species composition, canopy cover, and hydric herbaceous cover.

As described earlier, this alternative would reduce livestock grazing in the Riddle Creek riparian communities on public land. This would allow an increase in hydric herbaceous plant cover, increase deciduous woody canopy cover, and establish multiple age classes of woody species as well as improve streambank stability.

4. Residual Effects

There are no residual effects identified for this alternative.

B. Alternative I – Three-Pasture, Adaptive Rotational Grazing

1. Anticipated Effects

Critical Elements

a. Special Status Species

Although this alternative incorporates two consecutive seasons of rest from grazing, the effects to redband trout habitat are expected to be similar or the same as the proposed action as a result of improved riparian vegetation, streambank stability, and water quality.

Effects to other Special Status species such as sage-grouse and bighorn sheep, should be similar to those in the proposed action.

b. Riparian and Wetland Areas

Stonehouse Creek and Little Stonehouse Creek would be excluded from grazing, and used only for trailing purposes with similar effects to the proposed action. The effects of the exclosure fence of Option B would be as described under the proposed alternative. Under this alternative, Riddle Creek would be in a riparian pasture which would have 2 years of early grazing (season of use June 1 to July 15) and 2 years of rest from grazing. This management would allow deciduous woody plants to establish where potential exists and allow the release of plants dwarfed by late season grazing. It would also provide for increased hydric herbaceous species in those portions of the riparian community lacking these species. This management would promote bank stability and provide for a proper functioning stream. The duration of use would be approximately 5 to 6 weeks during the season of use.

The management of the Riddle Creek wetland meadows would be as described above. This would provide rest 2 years out of 4 and early use the other 2 years. This management would provide for rapid improvement of the Riddle Creek wetland meadows. During early use, duration of use would be approximately 5 to 6 weeks when the uplands are most palatable. Much of the use would be on upland plant species. During the 2 years these meadows would be grazed, the meadows would have adequate moisture (most years) to allow hydric species that are grazed to regrow, complete their reproductive cycle, and provide adequate cover for watershed functionality and dependent wildlife cover.

Paddle Meadows (Deep Creek), which would be located in the South Pasture, would be grazed 2 years early, 1 year late, and 1 year out of 4 rested. This management would provide opportunity in 3 out of 4 years for hydric species to complete the reproductive cycle. The management of meadows under this alternative would provide for upward trend with 10+ percent increase in hydric species composition as outlined in allotment-specific objectives.

c. Water Quality

Same as the proposed action.

d. Wilderness Study Areas

Naturalness: The effects to naturalness would be the same as the proposed action.

Solitude: The effects to opportunities for solitude would be the same as the proposed action.

Primitive and Unconfined Recreation: The effects to opportunities for primitive and unconfined recreation would be the same as the proposed action.

Special Features: The effects to special features would be the same as the proposed action.

e. Cultural Resources

Same as the proposed action.

Noncritical Elements

a. Recreation

Effects to recreation in the WSAs and the remainder of the allotment would be the same as the proposed action.

b. Vegetation (Uplands)

This alternative provides for exclusion of grazing for the Stonehouse Canyon and surrounding area. The effects on upland vegetation of the water developments and pipelines are as described under the proposed action.

This alternative would increase utilization levels within low sagebrush communities. Utilization on all upland plant communities may increase. Utilization levels within the mountain sagebrush-bunchgrass communities in the Ward Pasture (grazed late 3 out of 4 years) may increase significantly.

However, in these years, grasses would have matured (completed reproductive cycle). Dietary preference toward browse would increase, especially in drier years. Grazing use would be expected to increase within aspen communities and/or other preferred browse.

Duration of use in each area would be reduced from 10 to 12 weeks currently to 5 to 6 weeks, resulting in a decrease in the frequency of repeat defoliation of desirable forage plants with an opportunity of regrowth and completion of the reproductive cycle. Under this alternative, all grazed pastures would have periodic rest. Riddle Creek Pasture would be rested 2 out of 4 years, Ward Pasture 1 out of 4 years, and the South Pasture 1 out of 4 years.

During rest years, all plants would be able to complete their reproductive cycle, improving overall plant vigor.

This alternative also provides partial deferment 1 out of 4 years in the South Pasture and 3 out of 4 years in the Ward Pasture. During the years of partial deferment, most desirable forage plants would complete their reproductive cycle.

This alternative would provide for watershed function of uplands and accomplish the allotment-specific objectives for upland vegetation. Having three pastures allows for more flexibility in adaptive rotational grazing to attain the allotment-specific objectives.

c. Wildlife

Effects to wildlife of the water developments, pipelines, fencing, and exclusion of livestock in the Stonehouse Canyon area would be as described under the proposed action. The management outlined in this alternative would provide improved upland habitat conditions in the South and Riddle Creek Pastures. The incorporation of rest from grazing into management of all pastures would ensure improved upland habitat with adequate forage and cover.

The Ward Pasture would have late grazing 3 out of 4 years and would be rested 1 year out of 4. If utilization levels exceed moderate or dietary preference of cattle increases use of browse, there is potential for habitat conflicts with deer, elk, small mammals, and birds within this pasture.

The wetland meadows would improve as described under the proposed action. This alternative would provide rest from livestock grazing 1 year out of 4 on Paddle Meadows, which would provide additional opportunities for the recovery of hydric species and for overall improvement of the meadows.

The Riddle Creek Meadows would have 2 years out of 4 years of rest from grazing and early season grazing the other 2 years. This management would assure achievement of standards for rangeland health and accomplishment of allotment-specific objectives. This would accelerate the habitat improvements outlined in the proposed action for all wetland meadows.

d. Fisheries

See redband trout under the Special Status Species section.

e. Visual Resources

The effects to visual resources would be the similar to, but less than, the proposed action because Option A would add a total of 5.10 miles of fence to the landscape and Option B a total of 6.00 miles of fence.

VRM Class IV (or III) objectives would be met for the non-WSA portion of the allotment. VRM Class I objectives would not be met for the WSA portion of the allotment. Additional mitigation would be needed for the fences proposed for the WSAs.

2. Mitigating Measures

The mitigating measures outlined under the proposed action would be applicable under this alternative. In addition, the mitigating measures listed below would also be required:

a. Utilization limits of upland key forage grasses of 50 percent and 50 percent on key browse species within the Ward Pasture would be implemented for late season grazing within this pasture.

3. Cumulative Effects

The cumulative effects would be as outlined under the proposed action.

4. Residual Effects

There are no residual effects identified for this alternative.

C. Alternative II - Early Season of Use Change (June 1 to July 15)

1. Anticipated Effects

Critical Elements

a. Special Status Species

The early season use would promote recovery of riparian vegetation, including willow recruitment, and streambank stability facilitating improved habitat conditions for redband trout similar to the proposed action and Alternative I. The rate of recovery may be less than the proposed action and Alternative I without the incorporation of a rest from grazing; however, the multiple years of recent rest associated the prescribed fire treatment provided for initial recovery of vegetation that would be expected to be maintained and continued under this alternative.

Since there are no new fences or water developments proposed in this alternative, Special Status species would not be displaced as in previous alternatives. The grazing season would be shortened which would allow for regrowth of meadow species which should supply some cover for sage-grouse in the meadow areas. With reduced cover, sage-grouse are more susceptible to predation. Upland vegetation would be nearing the end of its growing season and would probably show little regrowth. This could affect the availability of forbs used by sage-grouse.

b. Riparian and Wetland Areas

The riparian and wetland plant communities would improve. The rate of recovery may be less than the proposed action and Alternative I without the incorporation of a rest from grazing; however, the multiple years of recent rest associated the prescribed fire treatment provided for initial recovery of vegetation that would be expected to be maintained and continued under this alternative.

Under this alternative the reaches of Stonehouse and Little Stonehouse Creeks currently impacted by livestock would still be impacted. The increased numbers of cattle within Stonehouse Canyon may impact additional reaches of these streams. When cattle enter the canyon from the upper portions of the allotment, they seldom trail back up because of the steepness of slope. This would require increased livestock management to maintain the current riparian condition on these streams.

c. Water Quality

The increased utilization levels during critical growth periods for upland plants, with no periodic rest, would cause upland plant communities to decline in health. This could reduce vegetation and ground cover; thereby, increasing the potential for accelerated erosion. This may affect water quality, particularly turbidity. However, improved riparian and wetland conditions would increase the possibility of achievement of water quality objectives.

d. Wilderness Study Areas

Naturalness: Removal of 2.75 miles of old fence would increase naturalness in the Lower Stonehouse WSA; naturalness would not be increased in the Stonehouse WSA. The imprints of man's work would be less noticeable.

Solitude: Opportunities for solitude in the Stonehouse WSA would not be affected. Solitude opportunities in the Lower Stonehouse WSA would be improved through the removal of old fences.

Primitive and Unconfined Recreation: Opportunities for primitive and unconfined recreation in the Stonehouse WSA would not be affected. Primitive and unconfined recreation opportunities in the Lower Stonehouse WSA would be improved through the removal of old fences.

Special Features: The effects to special features would be the same as the proposed action.

e. Cultural Resources

Same as the proposed action.

Noncritical Elements

a. Recreation

Recreation in the WSAs would be improved, while recreation in the remainder of the allotment would not be affected.

b. Vegetation (Uplands)

There would be no new fencing or pipelines in this alternative.

The increased numbers of livestock and the shortened early season of use would provide for improved distribution of animals within the uplands. This season of use would promote upland grazing use because upland grasses are generally more palatable than riparian or wetlands hydric species during early season. Additionally, the shortened season of use from 10 to 12 weeks to 5 to 6 weeks would decrease the frequency of repeat defoliation from grazing, allowing some of the grazed plants opportunity for regrowth. At this time, upland forage species are actively growing prior to seed ripe (July 30 to August 15) so plants are highly palatable. Also, this is typically prior to maximum daily temperatures when livestock tend to spend more time grazing and shading in the riparian communities and wetlands. Grazing each year would be during critical growth for upland grasses and forbs with no opportunity for rest. This would result in declining upland range condition over time. It is anticipated that increased grazing pressure would occur in Stonehouse Canyon which would increase utilization on the lower portions of the canyon. Animals would tend to concentrate in these areas during early season storms and as the season progressed. This would result in declining range condition in these areas.

c. Wildlife

There would be no new fencing under this alternative, which would eliminate any possible hazards of additional fencing to wildlife. The effects described for upland vegetation such as reduced vegetative cover and ground cover and accelerated erosion would have effects on habitat for deer, elk, antelope, small mammals, and species of songbirds.

d. Fisheries

See redband trout under the Special Status Species section.

e. Visual Resources

A total of 5.75 miles of fence would be removed from the allotment. Removal of the fences in the Stonehouse Allotment would eliminate a variety of manmade features from the landscape, including short vertical lines, long horizontal lines, and dark cylindrical forms. The use of ATVs for fence removal could create sinuous linear features through the crushing of vegetation and exposure of soil. Line, color, and texture contrasts could be created. The stage of vegetation growth and the wetness of the soil would affect degree of contrast.

VRM Class I and IV (or III) objectives would be met.

2. Mitigating Measures

Mitigating Measures a., b., and f. of the proposed action would be included in this alternative.

3. Cumulative Effects

The cumulative effects of this alternative would be to not achieve some of the allotment-specific objectives as outlined below.

It would not likely improve the riparian vegetation and streambank stability on the lower reach of Stonehouse Creek. Uplands would not be managed so that forage, water, cover, structure, and security necessary for wildlife are available on public land. Habitat for Special Status species such as bighorn sheep and sage-grouse may not be maintained.

The grazing management outlined in this alternative would provide for accomplishment of objectives identified for the wetland meadows. The riparian vegetation objectives on Riddle would likely be accomplished.

Grazing management of the uplands would be seasonlong (June 1 to July 15) during critical growth periods which, as described above, would not accomplish the objectives for uplands.

This alternative would not conform to the Guidelines for Livestock Management for Public Lands Administered by the BLM in the States of Oregon and Washington, specifically Guidelines 1 and 6.

The grazing management outlined in this alternative would also not achieve and/or maintain the *Standards for Rangeland Health for Public Lands Administered by BLM in the States of Oregon and Washington*. These standards are:

- Watershed Function – Uplands
- Native, Special Status, and Locally Important Species: sage-grouse, deer, and elk

4. Residual Effects

The grazing management outlined in this alternative would not allow maintenance of the upland vegetation communities and would result in at-risk watershed function and habitat diversity.

D. Alternative III - No Action

1. Anticipated Effects

Critical Elements

a. Special Status Species

The 1999 allotment evaluation determined that Riddle Creek redband trout habitat is unsatisfactory due to high water temperatures. Also indirect indicators of unsatisfactory habitat identified in this evaluation are riparian plant community structure, unstable banks, and mechanical bank damage. These conditions would not be expected to improve under current management.

The effects of this alternative would not meet the objectives for sage-grouse and bighorn sheep as identified during the evaluation process. Riparian areas which are important to sage-grouse would be over utilized every year and uplands would also be degraded. This would not improve habitat for any Special Status species.

b. Riparian and Wetland Areas

Riddle Creek, within Stonehouse Allotment, is functioning at-risk.

Plant composition, plant community structure, point bars not revegetating, channel width:depth ratio, and channel sinuosity were determined to be below potential for this type of stream. The percentage of unstable streambanks also exceeded what would be expected for a proper functioning stream of this channel type. Current livestock management was determined to be a causal factor and would be expected to reverse the improvements realized from recent rest and would not likely facilitate progressing toward PFC.

Stonehouse and Little Stonehouse Creeks are properly functioning. However, the lower 0.20-mile is noted as having bank stability and hydric species vegetation cover below potential. Livestock was determined to be a causal factor.

Plant composition in Paddle Meadows and Riddle Creek Meadows has a reduced percentage of composition of hydric species and expressions of more xeric communities with some accelerated erosion. These meadows are functioning at-risk with livestock determined to be a causal factor.

Under current management, improvement to the riparian and possibly wetlands would be minimal, leading to further decline in watershed function.

c. Water Quality

Riddle Creek does not meet the State standard for water quality due to water temperatures being greater than 68 ^{o}F for the 7-day average maximum temperature. As a result, this stream is recognized as water quality limited (CWA 303(d) list). Livestock are determined to be a causal factor in the limiting of water quality according to the 1999 Stonehouse Allotment evaluation. Under current livestock management water temperatures are not expected to improve.

d. Wilderness Study Areas

Naturalness: The quality of naturalness would be maintained. There would be no increase or decrease in the number or size of range improvements. The imprint of man's work would remain substantially unnoticeable and the primeval character of the WSA would continue.

Solitude: Opportunities for solitude would not change.

Primitive and Unconfined Recreation: Opportunities for primitive and unconfined recreation would not change.

Special Features: Special features would not be affected.

e. Cultural Resources

There are no known impacts to cultural resources under the no action alternative. Additional inventory, focused on livestock congregation areas (i.e., waterholes, road intersection with fencelines, fence corners, spring developments, riparian and adjacent areas), needs to be completed in order to adequately evaluate the impacts to cultural resources in the Stonehouse Allotment.

Noncritical Elements

a. Recreation

Recreation in the WSAs and the remainder of the allotment would not be affected.

b. Vegetation (Uplands)

The allotment evaluation completed in 1999 determined watershed functionality was at-risk due to plant composition, plant community structure, and lack of direct ground cover within the mountain sagebrush-bunchgrass plant communities. These communities also had slight accelerated erosion. Livestock were determined not to be a causal factor. The causal factor was determined to be fire exclusion from a fire-dependent ecosystem.

Fire was reintroduced into many of these communities during 2001 and 2002. This may provide for increases in utilization levels on key forage species by cattle in portions of mountain sagebrush-bunchgrass communities. Without fences to control timing of grazing, livestock distribution and to lessen the frequency of repeat defoliation and to provide periodic rest these areas may decline in condition.

c. Wildlife

Current utilization from livestock in Riddle Creek riparian communities, Riddle Creek Meadows, and Paddle Meadows is seasonlong (June 16 to September 15) at a level that does not allow palatable plants regrowth or to complete their reproductive cycle. This type of use facilitates a more xeric plant community and allows less than 3 inches of standing vegetation. All of these factors provide unsatisfactory habitat conditions for most dependent wildlife species.

d. Fisheries

See redband trout under the Special Status Species section.

e. Visual Resources

There would be no changes in or additions to the existing forms, lines, colors, and textures in the characteristic landscape. VRM Class I, III, and IV objectives would be met.

2. Mitigating Measures

There are no mitigating measures for the no action alternative.

3. Cumulative Effects

The 1999 allotment evaluation identifies that current livestock management is not in conformance with Oregon and Washington guidelines for livestock management on public lands, specifically Guidelines 1 and 6. This evaluation further identifies nonachievement of the Standards for Rangeland Health Standard 2 - Watershed Function Riparian/Wetland Areas; Standard 4 - Water Quality; and Standard 5 - Native, Special Status, and Locally Important Species (redband trout). The evaluation determined that current livestock management is a causal factor. Also, Standard 3 - Ecological Processes is functionally at-risk and livestock may be a causal factor.

Furthermore, without changes in livestock management allotment-specific objectives for water resources, riparian/wetlands, wildlife and wildlife habitat, fish and aquatic, native, Special Status, and locally important species (redband trout) would not be accomplished. In addition, accelerated erosion would continue.

4. Residual Effects

The residual effects under current management are upland plant communities which lack species, structural, and habitat diversity. Riddle Creek is functioning at-risk and providing inadequate habitat for redband trout. Wetland meadows are functioning at-risk due to increased xeric plant species, lacking hydric plant species cover and diminished structural diversity. These plant community conditions do not provide for any proper hydrologic function or adequate cover and forage for wildlife species.

E. Alternative IV - Two-Pasture, Early-Deferred Rotational Grazing

1. Anticipated Effects

Critical Elements

a. Special Status Species

Redband trout habitat would improve as discussed under the proposed action although potentially at a faster rate due to excluding livestock grazing from Riddle Creek.

The effects of this alternative on sage-grouse and bighorn sheep would be as described for the proposed action. One difference is the exclosure on Riddle Creek which would increase the chance for collision with fences and increase raptor perches close to the riparian area. This could increase predation on sage-grouse. The improved conditions in the uplands and wetlands would provide improved habitat for sage-grouse and bighorn sheep.

b. Riparian and Wetland Areas

Riparian habitat would improve as discussed under the proposed action. The perennial streams (Riddle Creek, Stonehouse Creek, and Little Stonehouse Creek) would be excluded from livestock grazing on public land. Exclusion from livestock grazing would allow riparian plant communities to progress toward later seral stages similar to the proposed action, although potentially at a faster rate.

Willow communities would establish and varied age classes would develop in existing willow communities on Riddle Creek. Improvements in riparian plant communities would lead to improved channel morphology and hydrologic processes.

Stonehouse and Lower Stonehouse Creeks are currently in PFC. Only short segments of these riparian plant communities (0.20-mile or less) would have increases in hydric herbaceous species with few changes expected in the deciduous woody overstory. Some improvement in bank stability would occur on portions of these streams.

The proposed grazing management would improve the wetland meadows within the allotment. The pasture fencing would be designed so the Riddle Creek Meadows and Deep Creek Meadows (Paddle Meadows) would be in the South Pasture. The 1999 allotment evaluation identified most of the livestock use was seasonlong on these meadows. This alternative would implement an early season of use (June 1 to July 15) in the South Pasture 2 out of 3 years. The remaining year the pasture would be grazed approximately July 16 to September 8. The early use would encourage livestock use on the uplands because the upland grasses are highly palatable during this season. The proposed fencing would improve livestock distribution which would provide a more even utilization pattern between plant communities.

Decreasing duration of use from 10 to 12 weeks to 5 to 6 weeks under this alternative would reduce instances of repeat defoliation of plants by livestock grazing, allowing grazed plants opportunities for regrowth. This regrowth would provide for wildlife habitat needs and watershed function. During the early season of grazing, wetlands would have adequate moisture in most years to allow regrowth of hydric species that are grazed, allowing these plants to complete their reproductive cycle. When the South Pasture is grazed late, there should be adequate median stubble height (3 inches) of key species to allow meadows to function and continue to improve.

The effects of the Stonehouse Canyon exclosure fences would be as described under the proposed action.

c. Water Quality

Same as the proposed action.

d. Wilderness Study Areas

Naturalness: The effects to naturalness would be the same as the proposed action.

Solitude: The effects to opportunities for solitude would be the same as the proposed action.

Primitive and Unconfined Recreation: The effects to opportunities for primitive and unconfined recreation would be the same as the proposed action.

Special Features: The effects to special features would be the same as the proposed action.

e. Cultural Resources

Same as the proposed action.

Noncritical Elements

a. Recreation

Effects to recreation in the WSAs and the remainder of the allotment would be the same as the proposed action.

b. Vegetation (Uplands)

Under this alternative, the Stonehouse Canyon grazing exclusion area would not have cattle grazing except that which would occur during trailing. Those areas within the canyon where cattle currently concentrate throughout the season of use would improve.

Under this alternative, all plants in the excluded area would be able to complete their reproductive cycle when moisture is adequate.

The proposed management would increase grazing use by livestock on much of the upland plant communities. Utilization levels would be expected to be light to moderate and management would limit utilization of key species to 50 percent.

Upland plant communities within the Ward Pasture would be grazed when most plant species are in critical growth stages 1 out of 3 years. This would allow 2 out of 3 years, when uplands are grazed in partial deferment, for most upland herbaceous plants to complete their reproductive cycle if soil moisture is adequate.

Upland plant communities within the South Pasture would be grazed when most plant species are in critical growth stages 2 out of 3 years. This would allow 1 out of 3 years, when uplands are grazed in partial deferment, for most upland herbaceous plants to complete their reproductive cycles if soil moisture is adequate.

The duration of use would be reduced from the current 10 to 12 weeks to approximately 5 weeks within a pasture. This would decrease the frequency of repeat defoliation of desired livestock forage species. This would allow adequate regrowth when plants are grazed early and for grazed plants to regrow and complete their reproductive cycle if soil moisture is adequate. The change of timing of grazing also changes plant species palatability for livestock, i.e., cattle would use more browse during the late season and less in early season. The amount of time spent in plant community types varies by season, i.e., livestock need for shading in aspen communities increases with late season. This animal behavior would allow rest from grazing for desired forage plants by changing timing of use. The grazing management outlined in this alternative would allow upland plant communities to function and provide for plant community health.

The development of water would allow livestock to distribute more evenly, thereby controlling levels of utilization. These water sources, along with fencing, are needed to provide the critical growing stage rest for desired forage plants, control duration and timing, and intensity of use to manage for healthy rangelands.

c. Wildlife

Under this alternative, Stonehouse Canyon would be excluded from livestock grazing. There are no known effects to wildlife species in this area from the exclusion of livestock grazing. However, fencing to exclude this area and pasture fencing would create a slight hazard to elk, deer, and antelope.

Fencing including the exclosures (Options A and B) would be as described under the proposed action.

Wildlife species would benefit from the additional water sources provided by the spring developments and pipelines. The earlier season of use and the reduced duration of use in each area would provide less opportunity for repeated defoliation of plants by domestic livestock. The residual herbaceous cover on uplands and wetlands would provide improved habitat conditions for most wildlife species. Key among habitat conditions that would improve are increased forage supply and protective cover. The improved conditions in the uplands and wetlands would provide improved habitat for wildlife species.

All riparian habitat is expected to improve with implementation of this alternative. The wetlands would increase in hydric plant species and soil water retention thereby providing a more reliable lotic habitat. Increased standing vegetation would improve food and cover for many birds and small mammals and provide increased forage for elk, deer, and antelope.

d. Fisheries

See redband trout under the Special Status Species section.

e. Visual Resources

The effects to visual resources would be the similar to, but greater than, the proposed action because Option A would add a total of 8.60 miles of fence to the landscape and Option B a total of 9.50 miles of fence, two additional spring developments with short pipelines and one trough each would be built, and ten existing reservoirs would be maintained.

VRM Class IV (or III) objectives would be met for the non-WSA portion of the allotment. VRM Class I objectives would not be met for the WSA portion of the allotment. Additional mitigation would be needed for the fences proposed for the WSAs.

2. Mitigating Measures

The mitigating measures a. through k. outlined in the proposed action would be applicable under this alternative.

3. Cumulative Effects

The cumulative effects would be as outlined for the proposed action.

4. Residual Effects

There are no residual effects identified under this alternative.

CHAPTER V: CONSULTATION AND COORDINATION

Tom Davis Livestock
Harney County Court
Oregon Department of Fish and Wildlife
Steens Mountain Advisory Council

CHAPTER VI: PARTICIPATING STAFF

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APPENDIX E

Allotment Evaluation Results

In April 1999, a formal evaluation of the Stonehouse Allotment was completed by an Andrews Resource Area ID Team which included summary, analysis, and interpretation of all available rangeland monitoring. A summary of data from this evaluation is as follows:

Key plant species with target utilization are as follows:

Key Species	Utilization Target
Idaho fescue	50%
Nebraska sedge	45%
Baltic rush	45%
Kentucky bluegrass	50%

In 1983 and 1984, an Ecological Site Inventory was completed for the allotment which identified ecological status as:

Ecological Status	Acres
Early seral	0
Late seral	4,085
Mid-seral	5,913
Potential natural community	0
Not rated	393

This inventory did not identify the wetlands or riparian ecological sites, which were mapped as inclusions with uplands sites. There is no current assessment of range condition.

Average actual use for livestock for the years 1993 to 1998 was 1,667 AUMs and in 1992 the allotment was rested. The current permitted use is 2,117 AUMs. The potential livestock stocking level as calculated based on 1993 to 1998 monitoring data is 2,285 AUMs. Average utilization during this period (1993 to 1998) was 32 percent for uplands and 71 percent for riparian and wetlands. This monitoring period evaluated had above average precipitation except for 1994 which lacked moisture during the growing season. Rangeland trend is stable on the uplands and the meadows. The meadows (approximately 700 acres) are mid-seral ecological status with hydric species representing 36 percent of the composition (by frequency of occurrence) which in a later seral stage 60 percent + of hydric species would be expected on these wetland meadows. Ground cover is adequate to ensure stability of the site, however, the effective capture and release of water in these headwater meadows is not near its potential.

There are no monitoring sites which represent the deep loamy subalpine slopes, loamy 16 to 25-inch precipitation, stony loam and swales ecological sites (approximately 5,408 acres) which apparent trend indicates as stable to slightly downward. These ecological sites have juniper encroachment that is stressing mountain sagebrush on some areas, while on other sites the mountain sagebrush communities are mature and decadent, limiting herbaceous understory development.

Most of the low sagebrush gravelly ridge ecological sites are currently near site potential, with a stable trend (approximately 4,085 acres within the allotment).

Riparian functionality is thoroughly discussed in the following section. This evaluation provided the following analysis of the Standards for Rangeland Health developed for Oregon and Washington.

ANALYSIS OF RANGELAND HEALTH STANDARDS AND GUIDELINES FOR LIVESTOCK MANAGEMENT

A. Analysis of Rangeland Health Standards

1. Watershed Function - Uplands

This standard was achieved, however, the watershed's functionality is at-risk due to plant composition, community structure, and lack of direct ground cover on the deep loamy subalpine slopes, stony loam, and swale ecological sites. The current livestock grazing practices are determined not to be a causal factor. The causal factors were determined to be disruption of the historical fire frequency which provides for juniper invasion and woody species dominance of these ecological sites. Historical livestock grazing was a contributing factor to this process.

a. The indicators used on deep loamy subalpine slopes, stony loam, and swale ecological sites:

1) No recruitment of seedlings or young plants.

2) Shrub and tree dominated communities are losing herbaceous species.

3) Existing herbaceous species exhibit poor vigor.

4) The mountain sagebrush overstory is decadent and the density of young juniper is increasing.

5) There is a lack of litter and ground cover to protect the soil surface.

6) Slight accelerated erosion is occurring.

b. The indicators used on mountain gravelly ridge ecological sites.

1) The mountain gravelly ridges' ecological sites have plant composition and community structure that provides for functional uplands.

2) No upland accelerated erosion was detected on the mountain gravelly ridges' ecological site.

3) The amount and distribution of plant cover protects the soil surface.

4) There is adequate plant litter and residual cover to protect soil surface and to provide for nutrient cycling.

5) The current communities on these sites provide for nutrient cycling.

2. Watershed Function - Riparian/Wetland Areas

This standard was not achieved for all lentic or lotic systems. The current livestock grazing practices are determined to be a causal factor.

a. The indicators used are:

On Riddle Creek:

1) Some point bars are not revegetating.

2) Low channel width:depth ratio.

3) Low channel sinuosity.

b. Active floodplain is limited or not accessible by average flood events.

c. Lack of young willow age class.

On Wetland Meadows:

1) Lack of hydric species in the plant composition.

2) Encroachment of xeric species into the meadows.

3) Soil hummocking and vertical denuded cuts on portions of the meadows.

3. Ecological Processes

These processes are achieved but are functioning at-risk. The current livestock grazing practices may be a causal factor.

a. The indicators used are:

1) Existing plant composition.

2) Plant community structure.

3) Plant species diversity. This is on mountain sagebrush ecological sites. The decline of these indicators are due to a fire-dependent ecosystem in which fire has been removed through grazing practices (removal of fine fuels changing fire frequency) and fire suppression practices. This is also true on portions of the wet meadows within the Stonehouse Allotment.

4. Water Quality

The water temperature standard is not achieved on Riddle Creek and the water temperature is unknown on Stonehouse and Little Stonehouse Creeks and their tributaries. The current livestock grazing practices are determined to be a causal factor.

a. The indicators used are:

1) Water temperature greater than 17.8 °C during a 7-day rolling average of the maximum water temperatures.

5. Native, Special Status, and Locally Important Species

The standard is not achieved for redband trout. The current livestock grazing practices are determined to be a causal factor.

a. The indicators used are:

1) High water temperature.

2) Bank instability.

3) Riparian plant species composition lacking hydric species.

4) Lack of deciduous woody species for shading.

B. Conformance with Guidelines

The evaluation further determined that current management is not in conformance with the guidelines for livestock grazing management on public lands in Oregon and Washington, specifically Guidelines 1 and 6 as explained below:

1. The season, timing, frequency, duration, and intensity of livestock grazing are not based on the physical and biological characteristics of the site and management unit.

6. Current management does not provide periodic rest from grazing for rangeland vegetation during critical growth periods to promote plant vigor, reproduction, and productivity.

APPENDIX F

Maximum Allowable Impacts for Range Developments

	Maximum Allowable Impacts	**Proposed Action**	**Alternative I**	**Alternative II**	**Alternative III**	**Alternative IV**
Visual Resources	Low contrast	low contrast*/**strong**	low contrast*/**strong**	low contrast*/**strong**	no contrast	low contrast*/**strong**
Naturalness and Solitude	1. Negligible or no noticeable increase in human activity. 2. Negligible or no noticeable impact to presence and distribution of wildlife or evidence of livestock. 3. No additional facilities. 4. Negligible or no noticeable impact to pristine areas or conditions.	1. temporary increase 2. no effect to wildlife/decreased livestock evidence in parts of WSAs/ **potential increased livestock evidence in other parts of WSAs** 3. **2 new fence segments** 4. no effects	1. temporary increase 2. no effect to wildlife/decreased livestock evidence in parts of WSAs /**potential increased livestock evidence in other parts of WSA** 3. **2 new fence segments** 4. no effects	1. temporary increase 2. no effect to wildlife/decreased livestock evidence in parts of WSAs/ **potential increased livestock evidence in other parts of WSA** 3. **2 new fence segments** 4. no effects	1. no increase 2. no effects 3. no new facilities 4. no effects	1. temporary increase 2. no effect to wildlife/decreased livestock evidence in parts of WSAs/ **potential increased livestock evidence in other parts of WSA** 3. **2 new fence segments** 4. no effects
Planning	Conformance with existing plans.	Yes	Yes	Yes	Yes	Yes
Primitive Recreation	No reduction in availability or quality of recreation opportunities.	**constrained/**improved	**constrained/**improved	**constrained/**improved	no change	**constrained/**improved
Special Features	Negligible or no noticeable reduction in quality of special features.	no effects	no effects	no effects	no effects	no effects
Surface Water	Federal and/or state standards.	continue in PFC	continue in PFC	continue in PFC	no water quality info for Stonehouse Creek, but in PFC	continue in PFC
Vegetation	1. No lowering of seral condition. 2. Static trend. 3. 50% utilization of	1. no change 2. upward trend 3. 50% utilization 4. no effects	1. no change 2. upward trend 3. 50% utilization 4. no effects	1. no change 2. upward trend 3. 50% utilization 4. no effects	1. no change 2. static trend 3. 50% utilization 4. no effects	1. no change 2. upward trend 3. 50% utilization 4. no effects

	Maximum Allowable Impacts	Proposed Action	Alternative I	Alternative II	Alternative III	Alternative IV
	key species or existing plan decision. 4. No negative impact to T&E plants. 5. Healthy vigorous plants.	5. yes	5. yes	5. yes	5. yes	5. yes
Wildlife	1. No negative impact to T&E animals. 2. No negative impact to wildlife habitat. 3. No negative impact to wildlife populations. 4. No negative impact to wildlife diversity.	1. no effects 2. positive effects 3. positive effects 4. no effects	1. no effects 2. positive effects 3. positive effects 4. no effects	1. no effects 2. positive effects 3. positive effects 4. no effects	1. no effects 2. positive effects 3. positive effects 4. no effects	1. no effects 2. positive effects 3. positive effects 4. no effects

* low visual contrast based on implementation of all recommended mitigation measures
Bold responses indicate greater than "Maximum Allowable Impacts".

APPENDIX G

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